COLORECTAL CANCER
IN
NEW JERSEY

1979-1997

Cancer Epidemiology Services

March, 2001

Donald T. DiFrancesco
Acting Governor
Christine Grant
Commissioner

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EXECUTIVE SUMMARY
COLORECTAL CANCER IN NEW JERSEY: 1979-1997

Introduction

This report examines colorectal cancer incidence and mortality in New Jersey from 1979 through 1997 and presents data on subtypes of colorectal cancer and stage at diagnosis, which is an important factor in the survival of colorectal cancer patients. It also compares New Jersey incidence and mortality with that of the U.S. for the combined years 1993 through 1997. Information on colorectal screening and prevention is also included. (Please see the Glossary for definitions of incidence and mortality as well as other terms.)

The report was based on data that had been received and undergone quality assurance as of the summer of 2000. As the report was being prepared, preliminary data for 1998 became available and were included. In December, 2000, incidence data for 1998 and several years prior were published and differ somewhat from the numbers and rates in this report because the New Jersey State Cancer Registry is constantly being updated.

General Information on Colorectal Cancer

Colorectal cancer is the third most commonly diagnosed cancer among both men and women in the U.S., although the incidence of colorectal cancer is considerably greater in men than in women. It is the second most common cause of cancer death among men and the third among women. The risk of colorectal cancer increases with age, and age-specific incidence rates per 100,000 persons are highest among men and women over 70 years of age. Since 1990, the U.S. incidence of colorectal cancer has been slightly higher among blacks than whites. The risk factors for colorectal cancer include a personal or family history of colorectal cancer and certain inherited diseases. Research is ongoing on suspected risk factors including red meat consumption, high fat intake, obesity, low physical activity, and alcohol consumption. Scientists are also considering the role of genetic factors in colorectal cancer risk.

Colorectal Cancer Incidence in New Jersey

From 1979 through 1997 colorectal cancer incidence in New Jersey fluctuated between about 5,000 and 6,000 new cases per year, with a peak in 1985 at 5,870 cases. The annual age-adjusted incidence rate (new cases per 100,000) hovered near 60 until peaking in 1985 at 63.5 and subsequently dropping steadily to 50.9 in 1997. Each year men had a higher age-adjusted incidence rate than women, regardless of race, and white men had a higher rate than black men except in 1995. Between 1985 and 1997, the incidence rates dropped among white men, white women, and black women, but increased among black men.

Colorectal Cancer Stage at Diagnosis

The annual percentage of colorectal cancers diagnosed in the early stages (*in situ* and localized) rose by eighteen percent between 1985 and 1997, from 33.4 percent to 39.3 percent. The increase was greatest among black men and women. By 1997, the percent of colorectal cancers diagnosed in the early stages among the four gender and race groups had begun to converge, ranging from 37.2 percent among black women to 43.1 percent among black men.

Colorectal Cancer Mortality in New Jersey

The age-adjusted mortality rate from colorectal cancer in New Jersey steadily declined from 27 deaths per 100,000 people in 1979 to 18 deaths per 100,000 people in 1997. The decline occurred in all race and gender groups, but was most pronounced in white men and women. Over the years men had higher mortality rates than women, regardless of race. Black women had higher mortality rates than white women with the disparity widening over time.

Differences Between Men and Women and Blacks and Whites

Gender is a stronger determinant of colorectal cancer incidence and mortality rates than race. Female colorectal cancer incidence rates were consistently lower than male incidence rates, regardless of race. In earlier years (before 1990) whites tended to have higher incidence rates than blacks, especially in the male population. Since the early 1990s, however, incidence rates for blacks and whites converged until they were nearly equal.

Colorectal Screening in New Jersey

According to recent surveys in New Jersey, among residents age 50 and over, a higher percentage of women than men are conducting the blood stool test with a home kit, but a higher percentage of men than women are having sigmoidoscopies. However, the majority of citizens age 50 and over had not ever had a stool test nor a sigmoidoscopy. An even higher percentage have not had these screenings at the recommended time intervals.

Colorectal Cancer in New Jersey Compared with the U.S.

For all race and gender groups, colorectal cancer incidence and mortality rates were higher in New Jersey than in the U.S. as a whole for the years 1993 through 1997 combined. White men in New Jersey had the highest incidence and mortality rates and white women in New Jersey had the second highest incidence and third highest mortality rates in the U.S.

Conclusions

Although colorectal cancer incidence and mortality have steadily declined in recent years, it remains a major cause of illness and death in New Jersey. At this time, increased attention to

screening for colorectal cancer and promoting healthier lifestyles are the best methods for addressing this public health problem.

SUMMARY OF STATISTICAL TRENDS
COLORECTAL CANCER IN NEW JERSEY: 1979-1997

* **Number of new cases:** The number of newly diagnosed cases of invasive colorectal cancer in New Jersey rose gradually from 1979 until it peaked in 1985 at just under 6,000 cases, after which the annual number decreased to just under 5,400 cases.

* **Rate of new cases:** The annual age-adjusted incidence rate (number of new cases per 100,000 people) remained nearly constant, above 60, until it peaked at 63.5 in 1985 and then steadily decreased to 50.9 in 1997.

* **Incidence rates by race:** Until 1995, black men had a consistently lower incidence rate of colorectal cancer than white men. The incidence rate of colorectal cancer among black women was similar to that of white women.

* **Incidence rates by gender:** Regardless of race, men showed a consistently higher incidence rate than women.

* **Incidence rates by age group:** Colorectal cancer incidence rates increased with age, rising more sharply after the age of 50. Incidence rates were highest among men and women over the age of 70.

* **Stage of cancer at diagnosis:** The percentage of colorectal cancer cases diagnosed in earlier stages (*in situ* and local) from 1984 to 1997 increased, especially among black men and women. By 1997 the percent of colorectal cancer diagnosed in the earlier stages was more similar than in earlier years among the four race and gender groups, ranging from 37.2 percent among black women to 43.1 percent among black men.

* **Number of deaths:** The annual number of deaths due to colorectal cancer increased from 2,304 in 1979 to 2,415 in 1983, when it peaked, and gradually fell to 1,990 in 1997.

* **Mortality rates:** The annual age-adjusted death rate declined from 27 per 100,000 in 1979 to 18 per 100,000 in 1997. The decline occurred in all race and gender groups with white men and women showing the greatest declines.

* **New Jersey versus U.S.:** For the combined years 1993-97, the age-adjusted incidence and mortality rates for colorectal cancer were higher in New Jersey than in the U.S.

BACKGROUND

GENERAL INFORMATION ON CANCER[1,2]

What is Cancer

Cancer is a group of more than 100 diseases caused by the uncontrolled growth and spread of abnormal cells. Tumors, or abnormal growth of tissue, may be benign or malignant. Benign tumors are usually slow-growing and not life-threatening, whereas malignant tumors (or cancers) are made up of cells with abnormal genetic material (or DNA) and grow more rapidly. Malignant tumors have a tendency to invade neighboring tissues or organs and to travel and grow in other areas of the body; i.e. to metastasize. If the spread of the cancer is not stopped, cancer cells invade vital organs, which can result in death. Cancer cells may remain at their original site (local stage), spread to an adjacent area of the body (regional stage), or spread throughout the body (distant stage). Cancers at the local, regional or distant stage are considered invasive. A very early cancer found in only a few layers of cells, called *in situ* cancer, is considered non-invasive. (Please see the Glossary for definitions of many of these terms.)

What Causes Cancer

Cancers are caused by a variety of factors working alone or in combination. Some cancers are caused by external factors such as tobacco, diet, certain chemicals, radiation, and viruses and some by personal factors such as hormones, immune conditions, and inherited genetic mutations. Usually ten or more years pass between exposure to an external factor that causes cancer and the detectable disease.

Cancer Incidence and Mortality in the U.S.

Cancer is the second leading cause of death in the U.S. with about 1,221,100 new cases and 552,200 deaths estimated for 2000. Over the past 50 years, the overall death rate from cancer has increased due partially to a large rise in lung cancer death rates resulting from smoking. During the past few years, cancer rates have begun to decrease, possibly as a result of healthier lifestyles, particularly decreases in smoking. Cancer occurs in people of all ages, but its occurrence increases steadily in people over 45 years of age. However, in the U.S. cancer is also the leading cause of non-injury death among children under 15. In this country, men have about a 1 in 2 lifetime risk of developing cancer and women have about a 1 in 3 lifetime risk. These proportions do not include the majority of skin cancers that are not reportable to most cancer registries. In the U.S., men have higher cancer mortality rates than women, and blacks have the highest cancer mortality rate of any major racial group. A much higher percentage of people diagnosed with cancer are now surviving compared with people diagnosed in earlier years. More than six of every ten people diagnosed with cancer in recent years will survive for at least five years from the time of diagnosis.

GENERAL INFORMATION ON COLORECTAL CANCER[1-9]

Incidence in the U.S.

Colorectal cancer is the third most common type of cancer among men and women in the U.S., accounting for about 11 percent of all newly diagnosed cancer cases. It is estimated that over 130,200 new cases of colorectal cancer will be diagnosed in the year 2000 in the U.S. The overall age-adjusted incidence rate of colorectal cancer in the U.S. increased steadily between 1973 and 1985, after which overall colorectal cancer incidence declined. Regardless of race, colorectal cancer incidence rates are significantly higher in men than in women. Many researchers believe that the decrease in colorectal cancer incidence rates are due to changes in diet, such as the lower consumption of fat, red meat, and alcohol, and increased physical activity. Also, the use of non-steroidal anti-inflammatory drugs, including aspirin, may have contributed to the decline.[7] Increased screening for colorectal cancer, may have contributed to the decreased incidence rates through early removal of non-malignant polyps that may later become cancerous.

Mortality in the U.S.

Colorectal cancer is the second most common cause of cancer death among men and the third among women, making it the second leading cause of cancer death in the U.S. with 56,300 deaths estimated for 2000. Since 1973 colorectal cancer mortality rates have steadily declined in the overall population.

Risk Factors for Colorectal Cancer

* **Age:** The risk of colorectal cancer is very low in children and young adults and increases more sharply after age 50. This, along with personal and family history, is among the few undisputed risk factors for colorectal cancer.
* **Personal and Family history:** A personal or family history of colorectal polyps or inflammatory bowel disease is associated with increased colorectal cancer risk.
* **Heredity:** Certain rare hereditary conditions, including familial adenomatous polyposis (FAP), Gardner syndrome, Turcot syndrome, Puetz-Jeghers syndrome, juvenile polyposis syndrome, and autosomal dominant hereditary nonpolyposis colorectal cancer syndrome (HNPCC) increase an individual's risk of developing colon cancer.
* **Body Mass Index (BMI):** Some correlation has been shown between increased BMI and an increased risk of colorectal cancer.
* **Dietary factors:** The consumption of red meat and other foods high in saturated fats and alcohol have been shown to increase the risk of colon cancer, especially beer consumption with an increased risk of rectal cancer. Studies have shown that fiber and folic acid intake decrease colorectal cancer risk. Other dietary factors that may decrease colorectal cancer risk, such as calcium and vitamin D, are under continuous

study and debate. Dietary factors may be the most important factor in colorectal cancer risk, though recent studies have been ambiguous.
* **Physical Activity:** Some studies have found that increased physical activity reduces the risk of colorectal cancer.
* **Non-steroidal anti-inflammatory drugs (NSAIDs):** Studies have shown NSAIDs, such as aspirin and ibuprofen, to have some effect on reducing colorectal cancer risk.[3]

Other potential risk factors still under investigation include tobacco use, socio-economic status, age at first pregnancy, post-menopausal hormone replacement therapy, environmental exposures, and genetic factors. In actuality, it is a combination of many factors that determines an individual's risk for developing colorectal cancer.

Screening

All adults over the age of 50 should undergo regular colorectal cancer screening. Any person exhibiting one or more of the definitive risk factors (e.g. personal or family history) should begin regular screening earlier. There are several methods currently used to screen for early stages of colorectal cancer and pre-malignant conditions such as polyps. These methods have varying degrees of success in detecting colorectal cancer in different parts of the colon and rectum. (Note: see Figure 8 for a diagram of the colon and rectum.) A yearly fecal occult blood test (FOBT) detects small amounts of blood in the stool from any gastrointestinal source. As a result, the FOBT is not specific to colorectal cancer, but can be used to determine if a more specific test is necessary. A flexible sigmoidoscopy (Flex Sig) or sigmoidoscopy, provides a direct view of the distal colon, but does not detect polyps in the proximal colon. A Flex Sig is recommended every 5 years.

A colonoscopy provides a direct view of the entire colon and thus is the most comprehensive of all screening methods. The colonoscopy should be performed every 10 years and is performed under sedation. Finally, a double contrast barium enema (DCBA), with a recommended frequency of every 5 to 10 years, provides an x-ray image of the colon. In addition, virtual colonoscopies are currently being studied as less invasive and perhaps more accurate methods for detecting adenomatous polyps. Virtual colonoscopies include 2-dimensional and 3-dimensional computed tomographic colonography (CTC) and magnetic resonance colonography (MRC). The CTC is less promising because, under repeated screenings, it may expose the patient to elevated levels of radiation. Preliminary studies have shown the MRC and the conventional colonoscopy to have similar accuracy in polyp detection. Due to the high cost of the MRC, however, it would be most useful in screening of high-risk patients. A positive MRC would require that the patient undergo a conventional colonoscopy.[9]

Prevention

Regular screening to detect and remove potentially cancerous polyps, combined with a healthy, low-fat diet is recommended to prevent colorectal cancer. Recent studies have had inconsistent

results regarding the value of a diet high in fruits and vegetables for prevention of colorectal cancer. However, the value of these foods for preventing other diseases and maintaining overall health is indisputable. Physical activity is also important in maintaining overall health and may help to prevent colorectal cancer.

Additional Information

For additional free information on colorectal and other cancers these organizations may be contacted:

* New Jersey Department of Health and Senior Services - access the Internet at www.state.nj.us/health. The New Jersey Department of Health and Senior Services' website (under Cancer Resources) provides up-to-date information on cancer prevention, screening, treatment, and risk factors, as well as links to support services for cancer patients and their families. Cancer Epidemiology Services has incidence data on cancer in New Jersey from the New Jersey State Cancer Registry and informational materials from a variety of organizations (phone 609-588-3500). The New Jersey Cancer Education and Early Detection Services (NJCEED) of the Division of Family Health Services offers free screening to qualifying adults over the age of 40. The New Jersey Department of Health and Senior Services' website provides information on NJCEED and answers to frequently asked questions regarding cancer and cancer screening. For more information, contact the NJCEED Services at 609-292-8540.

* American Cancer Society - phone 1-800-ACS-2345 (or 1-800-227-2345) or access the Internet at www.cancer.org. The American Cancer Society is a nationwide, community-based, voluntary health organization dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives and diminishing suffering from cancer, through research, education, advocacy, and service.

* National Cancer Institute - phone 1-800-4-CANCER (or 1-800-422-6237) or access the Internet at www.nci.nih.gov. The Cancer Information Service (CIS) of the National Cancer Institute provides a nationwide telephone service for the public, cancer patients and their families. Their health care professionals can answer questions in English and Spanish and send printed materials. People with TTY equipment for the hearing-impaired may call 1-800-332-8615.

* Centers for Disease Control and Prevention (CDC) - access the internet at www.cdc.gov. CDC's website provides current information on cancer prevention, screening, treatment, and risk factors, as well as links to publications for patients and health care professionals.

COLORECTAL CANCER IN NEW JERSEY

INCIDENCE

Overall Incidence – 1979-1997

During the years 1979 through 1997 between 5,230 and 5,870 newly diagnosed cases of colorectal cancer among New Jersey residents were reported each year. In 1997 colorectal cancer accounted for over 13 percent of all newly diagnosed cancers in New Jersey, with 5,394 new cases. The annual age-adjusted incidence rate rose from 61.8 to 63.5 per 100,000 between 1979 and 1985, then decreased steadily to 50.9 in 1997. (See Figures 1 and 2.) The aging of the population is reflected in the slower decrease in the *number* of colorectal cancer cases after 1985 compared to the decrease in the age-adjusted *rates* after that year.

FIGURE 1

COLORECTAL CANCER INCIDENCE BY YEAR, NEW JERSEY - 1979-1997

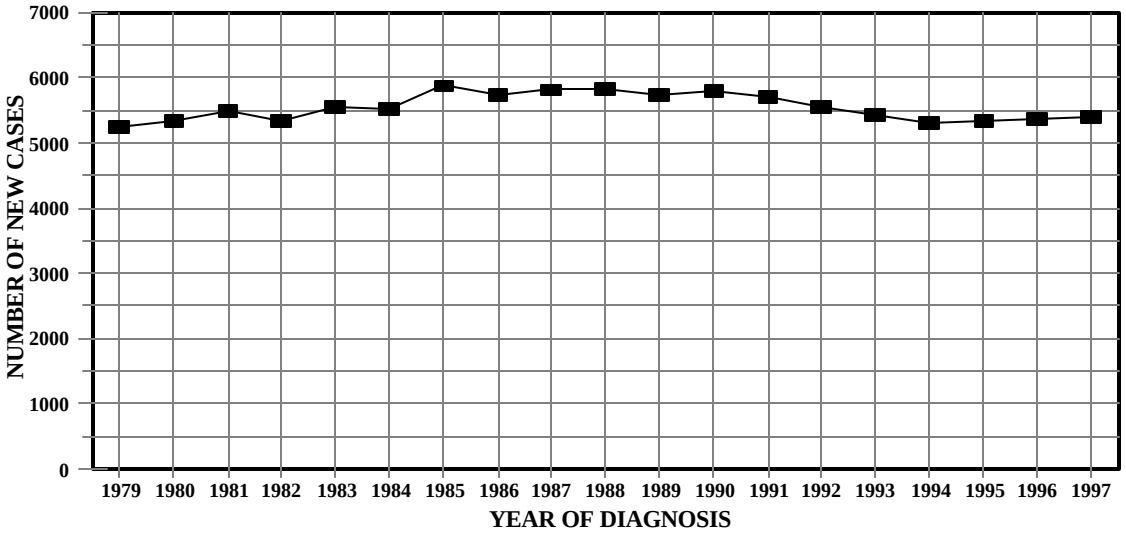
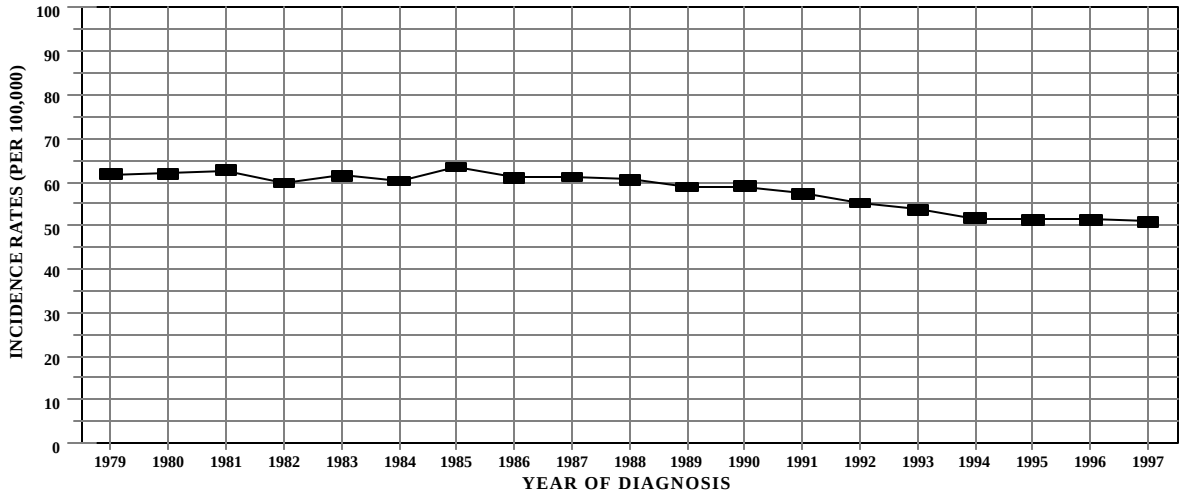


FIGURE 2
COLORECTAL CANCER INCIDENCE RATES
BY YEAR, NEW JERSEY – 1979-1997



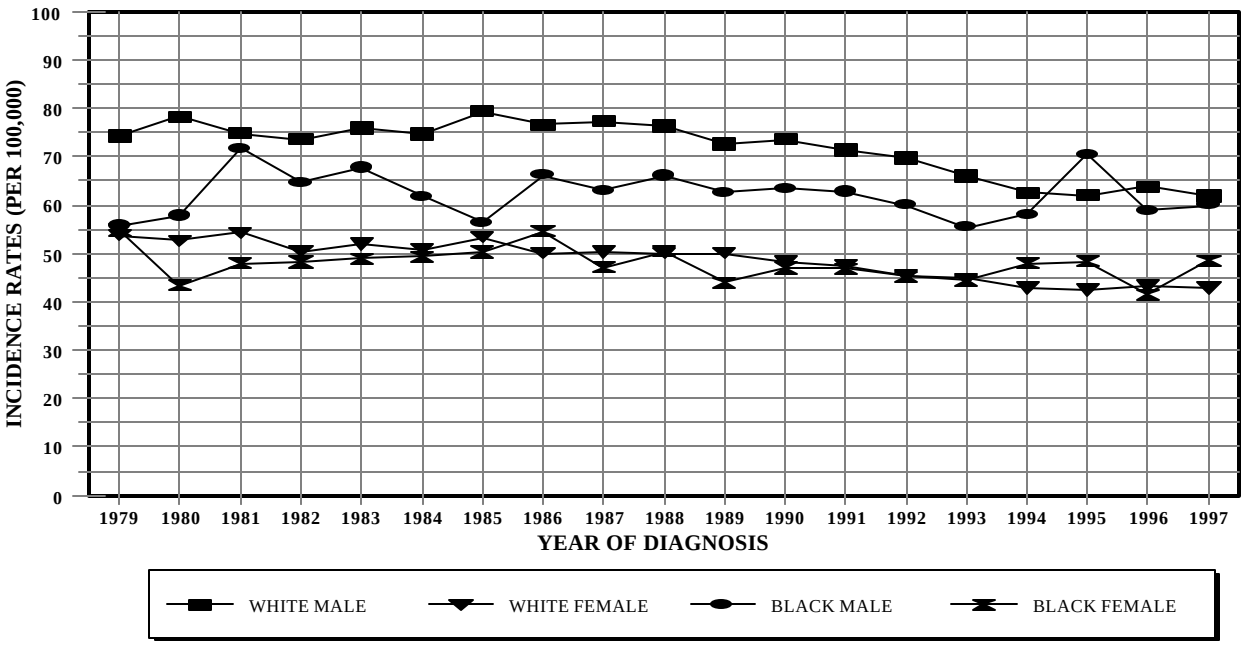
Age-Adjusted Incidence Rates by Gender and Race – 1979-1997

From 1979 to 1997, over 91 percent of New Jersey men with newly diagnosed colorectal cancer were white, and just over 7 percent were black. This distribution was similar among women with colorectal cancer, with over 90 percent white and 8 percent black. Men, regardless of race, had a consistently higher age-adjusted incidence rate than women. However, while annual incidence rates (except in 1995) were higher in white men than in black men, white and black women demonstrated similar incidence rates throughout the years 1979 and 1997.

The age-adjusted incidence rate of white men increased until 1985, and then fell steadily each year. The incidence rate of black men fluctuated until 1990, then fell each year through 1993, then rose between 1993 and 1997, with a peak above the white male incidence rate in 1995. Preliminary colorectal cancer incidence data for 1998 show that the age-adjusted incidence rates of white and black men rose to 63.3 and 64.0 per 100,000, respectively.

The age-adjusted incidence rate among white women dropped gradually from 1979 to 1997, and the incidence rate among black women fluctuated for all years. However, the preliminary 1998 data show the age-adjusted incidence rates for both white and black women rising slightly, to 43.8 and 48.8, respectively. (See Figure 3 and Tables 16 and 17 in Appendix II.)

FIGURE 3
COLORECTAL CANCER INCIDENCE RATES
BY GENDER AND RACE, NEW JERSEY – 1979-1997*



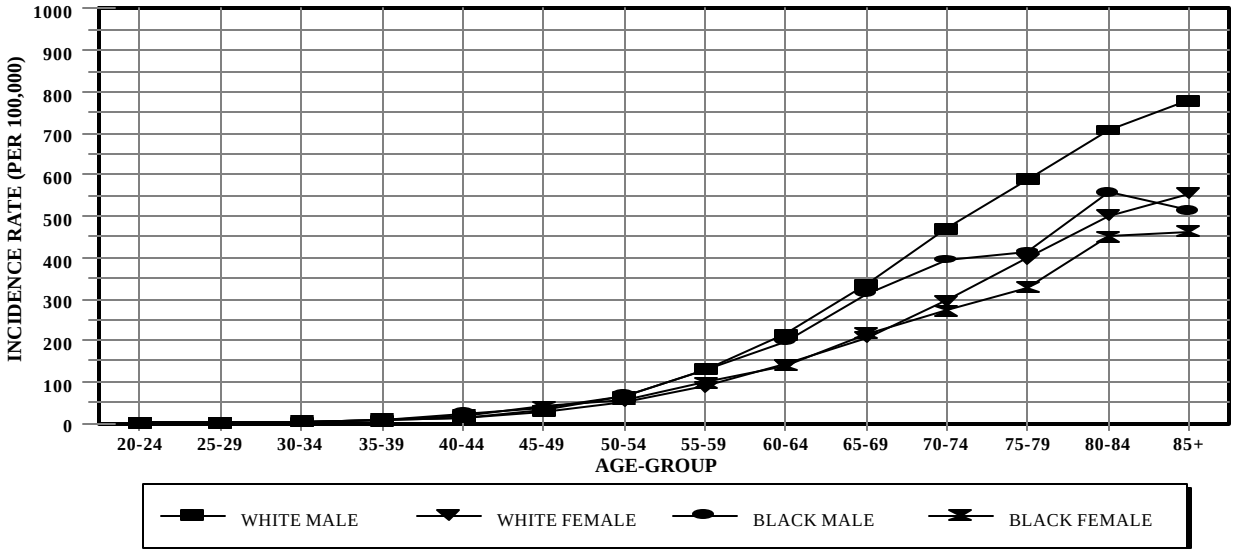
*Age-adjusted to the 1970 U.S. standard population.

Age-Specific Incidence Rates by Gender and Race

In the years 1979 through 1997 combined, the age-specific incidence rates increased with each successive five-year age group, with the exception of the over 85 age group in black men. In the younger age groups (20-24 through 50-54) black men and black women had higher incidence rates than their white counterparts, while the reverse was true in age-groups beyond 55. After age 50-54, the differences between whites and blacks and men and women generally increased for each successive age group, except the over 85 age group in which the incidence rate for black men was lower than that for white women. (See Figure 4 and Tables 18 and 19 in Appendix II.)

FIGURE 4

COLORECTAL CANCER AGE-SPECIFIC INCIDENCE RATES BY RACE AND GENDER, NEW JERSEY – 1979-1997



For people below age 50, there was no change in age-specific incidence rates from 1979 to 1997. The age groups over 50 showed little change in incidence rates until 1988, after which they began to decline. Each successive age group showed a more pronounced decline from 1988 to 1997. (See Figures 5 and 6, and Tables 20 through 23 in Appendix II). Note: Figures were not included for black incidence rates by age group because the incidences were too unstable due to small numbers.

FIGURE 5

COLORECTAL CANCER INCIDENCE RATES BY AGE GROUP, WHITE MALES, NEW JERSEY 1979-1997

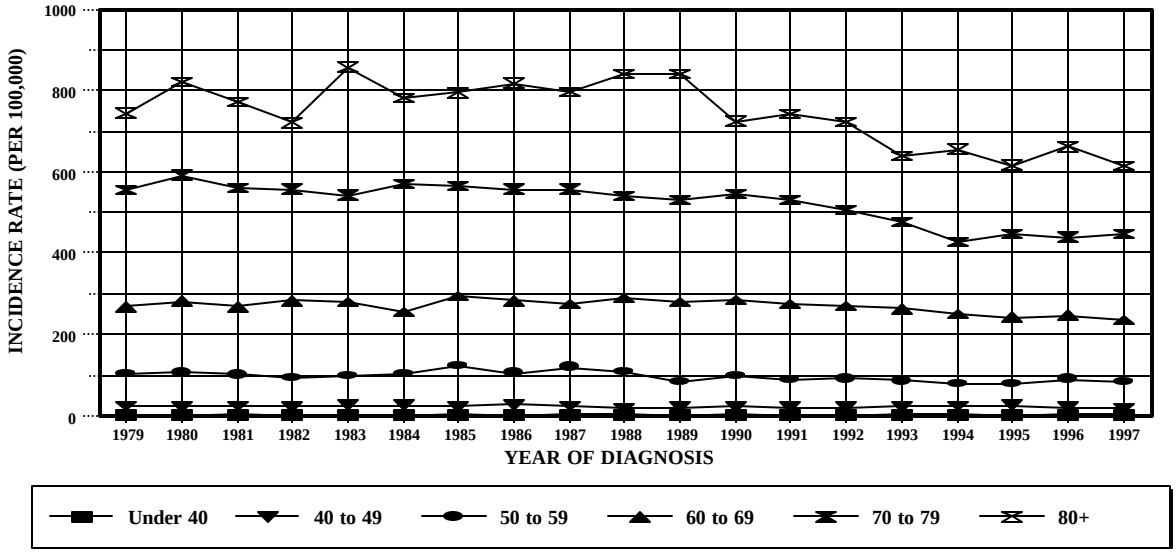
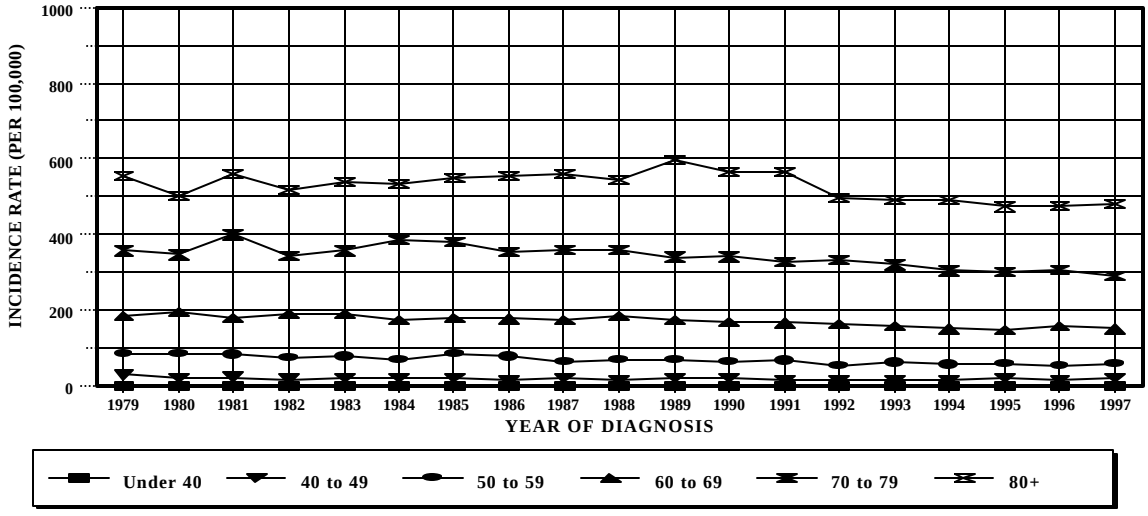


FIGURE 6

COLORECTAL CANCER INCIDENCE RATES BY AGE GROUP, WHITE FEMALES, NEW JERSEY 1979-1997



Age-Adjusted Incidence Rates by County

The age-adjusted incidence rates showed a wide range among the twenty-one counties of New Jersey for the years 1979 through 1997. (See Table 1.) This variation may be attributed to the usual random fluctuations in disease occurrence, differences in screening rates, and thus detection, and differences in the prevalence of risk factors for colorectal cancer. (See Tables 6 through 10 in the next section for details on the stage at diagnosis by county.) Tables 2 through 5 show the change in age-adjusted incidence rates over a ten-year period from 1988 to 1997. (Note: The years 1979 through 1987 are not included in Tables 2 through 5; earlier reports include 1979 through 1996.)

TABLE 1

COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY COUNTY, RACE, AND GENDER, NEW JERSEY 1979-1997*

COUNTY	MALE					FEMALE				
	WHITE		BLACK		OTHER & UNK.	WHITE		BLACK		OTHER & UNK.
	No.	Rate	No.	Rate	No.	No.	Rate	No.	Rate	No.
Atlantic	1,460	73.7	186	59.7	11	1,581	54.2	230	47.8	6
Bergen	6,221	71.0	163	58.4	147	6,089	48.3	220	52.1	128
Burlington	1,949	69.5	204	71.8	27	1,946	49.4	166	49.0	40
Camden	2,680	70.5	282	60.9	28	2,796	49.6	290	43.1	36
Cape May	1,014	80.4	26	55.8	8	992	55.4	44	60.2	5
Cumberland	840	71.9	88	70.2	14	788	47.6	73	39.3	6
Essex	3,705	70.5	1,186	63.0	69	3,817	47.3	1,433	49.2	78
Gloucester	1,106	68.4	93	56.5	24	1,174	52.3	93	42.1	10
Hudson	3,306	71.9	241	59.5	96	3,380	47.9	321	53.7	94
Hunterdon	536	64.7	8	132.0	8	519	47.8	6	62.5	---
Mercer	1,917	74.6	250	66.4	27	1,920	50.1	246	45.4	17
Middlesex	3,955	75.4	120	47.5	84	3,468	48.1	151	46.6	79
Monmouth	3,454	72.6	205	57.7	64	3,506	49.7	212	41.4	35
Morris	2,306	68.3	47	64.9	45	2,247	46.4	53	50.8	42
Ocean	4,577	74.1	37	59.3	29	4,237	49.1	49	55.7	37
Passaic	2,723	69.7	180	52.7	43	2,728	46.8	213	41.5	30
Salem	371	62.3	58	68.3	6	385	47.7	49	43.1	---
Somerset	1,193	62.4	54	75.3	23	1,121	42.7	47	46.9	13
Sussex	680	74.8	9	126.6	9	651	50.2	6	79.6	---
Union	3,375	71.1	398	71.5	64	3,392	48.9	396	49.7	61
Warren	664	77.1	---	---	---	665	53.0	5	40.2	---
STATE	**48,087**	**71.5**	**3,842**	**62.1**	**858**	**47,451**	**48.7**	**4,309**	**47.7**	**765**

* Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Cases of unknown county are included in the State numbers and rates. The dashes indicate fewer than five cases. Incidence rates were not calculated for people of other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 2
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY COUNTY, WHITE MALES, NEW JERSEY – 1988-1997*

COUNTY	1988		1989		1990		1991		1992		1993		1994		1995		1996		1997	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Atlantic	90	87.4	79	75.1	85	80.5	75	71.8	84	76.5	94	86.9	65	59.2	75	67.1	69	63.4	71	64.8
Bergen	326	71.5	331	71.7	315	67.9	330	69.6	354	75.1	315	65.6	287	60.0	309	64.4	268	55.4	305	62.0
Burlington	144	96.5	94	59.7	118	75.2	101	63.0	118	72.7	100	61.5	111	67.8	127	75.8	111	65.7	111	65.3
Camden	161	78.4	142	70.7	146	70.7	137	65.8	128	62.9	128	59.2	136	65.2	143	66.7	144	67.9	122	58.3
Cape May	74	111.0	59	86.1	63	90.1	64	95.2	58	81.0	60	79.8	47	66.8	54	76.5	44	64.1	50	69.7
Cumberland	45	74.4	42	65.5	43	67.6	47	74.4	52	78.1	41	61.2	48	72.8	32	50.8	49	76.9	43	67.6
Essex	192	71.3	192	71.5	186	71.3	183	69.6	187	71.6	145	56.1	149	57.3	149	57.8	145	57.0	142	55.5
Gloucester	54	62.1	53	60.2	67	77.3	67	70.0	69	71.7	62	64.1	66	69.2	54	56.0	64	64.2	65	63.8
Hudson	188	79.9	181	79.4	182	79.3	169	72.1	172	73.6	161	68.6	134	57.1	135	57.8	139	60.2	144	60.0
Hunterdon	37	83.7	30	69.0	45	99.6	27	58.1	31	68.9	40	81.4	25	49.6	24	48.9	34	64.2	33	64.6
Mercer	118	86.3	100	72.1	96	68.8	121	88.5	114	81.2	80	57.4	84	58.5	77	53.1	96	64.9	79	55.9
Middlesex	225	78.7	223	77.4	226	75.0	195	66.2	221	73.7	213	72.1	206	67.9	192	62.2	243	81.0	218	69.4
Monmouth	184	73.7	170	67.3	190	74.8	196	75.7	167	63.5	181	68.4	195	72.2	179	65.0	204	73.2	185	65.7
Morris	106	59.7	132	75.9	112	60.9	118	64.7	96	50.9	121	64.1	115	58.7	120	61.2	137	68.9	130	64.2
Ocean	236	74.6	273	80.8	275	79.3	251	69.9	249	67.4	235	63.6	233	63.5	251	63.4	255	64.3	260	65.9
Passaic	145	71.2	153	74.6	153	74.5	139	68.7	123	60.7	137	66.3	142	68.0	132	62.6	137	67.0	107	50.9
Salem	22	68.0	22	68.0	16	51.1	22	66.0	19	56.7	13	38.4	20	60.1	24	73.5	21	62.3	16	50.3
Somerset	68	68.5	53	52.8	72	69.0	62	58.1	62	58.8	60	53.1	63	54.2	74	62.9	65	54.2	67	53.2
Sussex	32	67.7	33	66.3	39	82.0	40	81.4	44	85.4	42	83.8	30	58.9	26	47.2	35	65.0	47	84.9
Union	217	87.2	178	72.8	181	72.6	203	82.7	163	65.7	165	66.1	149	59.6	141	56.9	130	51.3	127	48.8
Warren	34	74.1	49	108.4	32	71.4	39	85.2	40	83.7	49	100.8	36	70.9	27	53.3	35	67.5	52	97.1
STATE	**2,702**	**76.4**	**2,591**	**72.7**	**2,647**	**73.6**	**2,590**	**71.3**	**2,553**	**69.6**	**2,446**	**66.0**	**2,343**	**62.5**	**2,346**	**62.0**	**2,427**	**63.9**	**2,381**	**61.8**

*Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Cases of unknown county are included in the State numbers and rates. The years 1979-1987 are not included; 1979-1996 are included in earlier reports. Source: New Jersey State Cancer Registry.

TABLE 3
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY COUNTY, WHITE FEMALES, NEW JERSEY - 1988-1997*

COUNTY	1988		1989		1990		1991		1992		1993		1994		1995		1996		1997	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Atlantic	75	51.4	82	52.2	93	56.5	71	45.3	80	52.0	83	55.5	77	49.8	76	43.2	78	48.3	70	45.4
Bergen	342	51.3	339	49.7	306	45.3	331	48.0	328	47.2	296	42.3	284	39.2	301	44.4	321	46.3	273	38.8
Burlington	105	49.9	108	52.2	96	44.5	100	44.9	115	49.1	119	51.0	115	48.7	110	47.4	117	50.9	102	42.3
Camden	138	44.9	144	46.8	161	50.7	187	61.3	133	43.2	136	43.8	141	43.2	128	38.8	156	49.9	137	42.6
Cape May	60	65.9	60	68.0	55	63.7	54	57.4	60	60.2	63	51.7	45	40.6	60	54.2	43	43.1	43	41.7
Cumberland	41	48.6	46	50.2	42	45.7	40	44.0	37	39.8	40	41.8	41	44.5	28	31.4	33	37.3	41	48.9
Essex	209	47.1	228	54.0	204	48.4	190	46.6	161	38.3	164	44.1	167	43.3	149	38.5	182	46.7	162	42.1
Gloucester	56	46.0	66	53.5	60	48.9	68	51.9	75	58.7	61	44.7	75	54.9	71	53.8	72	53.2	61	45.5
Hudson	177	47.3	179	49.4	163	43.3	166	45.4	154	43.0	183	49.8	197	53.9	137	39.0	149	39.9	145	37.9
Hunterdon	28	49.3	25	38.0	20	32.0	32	50.3	28	46.7	36	65.5	32	52.5	32	49.6	25	34.6	42	57.8
Mercer	103	52.1	92	47.3	99	47.0	87	40.9	104	49.4	100	43.5	80	35.4	98	45.2	101	47.1	94	42.2
Middlesex	229	58.7	195	49.5	197	48.0	188	45.7	176	42.3	186	44.5	160	38.5	164	39.1	181	43.0	196	45.1
Monmouth	201	52.0	194	50.1	197	53.2	201	51.4	205	51.8	185	46.8	165	42.2	199	46.4	170	43.8	186	42.6
Morris	104	41.1	118	44.4	142	54.2	129	48.6	98	36.4	111	39.0	123	45.4	133	48.1	124	41.5	133	48.3
Ocean	235	49.4	259	51.3	221	42.4	217	41.2	229	43.3	218	40.9	234	43.6	231	40.9	243	40.8	253	46.3
Passaic	162	51.6	154	51.5	139	44.1	143	45.1	149	48.4	137	46.2	129	38.9	115	35.9	115	38.1	128	42.6
Salem	9	18.8	21	49.2	23	53.7	30	61.0	23	52.1	21	45.6	22	47.6	32	70.1	11	24.9	20	36.5
Somerset	55	39.5	52	38.7	80	52.5	45	29.6	69	44.1	59	39.5	54	34.8	67	42.4	46	27.0	68	41.4
Sussex	39	57.4	36	51.8	37	52.0	36	47.7	29	43.0	39	53.6	34	47.1	24	29.5	27	39.2	34	46.5
Union	193	52.7	192	51.3	177	47.8	183	49.7	160	42.1	146	37.8	148	38.4	155	40.5	154	41.8	156	43.1
Warren	40	57.5	27	39.8	52	73.3	41	60.6	35	50.7	41	58.6	31	44.1	36	52.9	39	54.2	37	44.8
STATE	**2,602**	**50.0**	**2,623**	**50.0**	**2,568**	**48.3**	**2,549**	**47.5**	**2,449**	**45.3**	**2,424**	**44.7**	**2,356**	**42.8**	**2,347**	**42.5**	**2,387**	**43.3**	**2,381**	**42.8**

*Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Cases of unknown county are included in the State numbers and rates. The years 1979-1987 are not included; 1979-1996 are included in earlier reports. Source: New Jersey State Cancer Registry.

TABLE 4
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY COUNTY, BLACK MALES, NEW JERSEY – 1988-1997*

COUNTY	1988		1989		1990		1991		1992		1993		1994		1995		1996		1997	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Atlantic	9	57.6	12	75.4	6	39.4	10	63.0	9	46.1	11	63.3	14	74.3	14	73.0	5	26.0	11	56.2
Bergen	11	81.3	6	34.8	7	48.9	7	44.7	8	44.4	14	88.4	10	59.9	11	61.9	10	51.4	7	35.6
Burlington	13	77.5	11	76.5	10	76.9	20	113.6	12	75.1	13	78.8	12	66.3	13	61.9	12	60.1	12	66.1
Camden	10	42.1	17	72.0	18	66.8	16	64.1	13	48.6	14	48.4	16	55.1	20	66.0	15	49.4	15	53.2
Cumberland	5	84.6	-	-	-	-	5	67.8	7	103.4	-	-	-	-	6	74.4	7	97.8	6	78.8
Essex	73	73.0	63	61.6	70	70.2	67	66.7	75	72.1	62	58.1	59	54.7	85	80.2	78	72.8	62	55.6
Gloucester	-	-	9	111.7	6	67.3	6	60.5	-	-	5	45.1	6	59.7	7	61.5	-	-	-	-
Hudson	8	40.4	13	67.0	14	55.0	12	45.8	15	64.9	12	58.4	14	58.8	14	55.3	17	59.7	26	93.0
Mercer	10	52.8	14	69.3	14	62.7	14	72.8	13	64.2	13	60.1	14	54.7	20	83.4	18	77.9	19	77.7
Middlesex	7	61.2	7	54.5	6	45.8	6	47.9	6	45.4	5	28.2	8	47.1	10	52.6	5	27.7	10	48.0
Monmouth	12	61.1	12	66.7	11	62.0	15	77.8	9	41.7	-	-	9	42.1	7	32.5	12	53.1	9	37.7
Passaic	15	90.2	8	39.3	7	37.5	6	24.7	8	36.0	13	62.6	11	48.0	19	77.6	10	43.0	11	42.4
Union	29	98.7	18	49.6	17	61.0	21	65.6	27	86.2	21	56.3	27	82.9	30	90.9	22	62.6	26	65.9
State	213	66.1	206	62.6	211	63.4	215	62.7	215	60.0	203	55.3	217	58.0	266	70.4	228	58.9	244	59.9

*Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Cases of unknown county are included in the State numbers and rates. Counties with six or more years of fewer than five cases each year were removed from the table – Cape May, Hunterdon, Morris, Ocean, Salem, Somerset, Sussex, and Warren counties. The dashes indicate fewer than five cases. The years 1979-1987 are not included; 1979-1996 are included in earlier reports. Source: New Jersey State Cancer Registry.

TABLE 5
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY COUNTY, BLACK FEMALES, NEW JERSEY – 1988-1997*

COUNTY	1988		1989		1990		1991		1992		1993		1994		1995		1996		1997	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Atlantic	15	60.6	15	64.5	10	42.8	9	36.0	15	58.5	13	48.3	14	40.9	10	33.4	12	38.6	19	62.7
Bergen	-	-	14	58.7	14	57.6	10	41.1	14	59.2	-	-	18	65.7	13	51.3	10	33.4	13	45.7
Burlington	12	71.6	7	39.0	11	58.4	9	51.4	7	35.6	15	60.5	10	48.1	8	34.2	9	36.9	10	43.8
Camden	18	53.3	12	34.0	22	59.2	12	30.8	15	38.1	8	20.7	17	40.1	27	63.6	15	33.9	22	49.9
Essex	88	55.9	77	47.1	70	43.9	89	55.0	69	41.0	85	50.1	92	54.9	83	48.9	74	43.4	89	51.3
Hudson	17	52.4	19	54.9	24	72.2	20	59.0	20	58.2	14	40.7	19	53.1	22	62.9	16	43.8	24	64.5
Mercer	10	37.0	12	41.2	7	22.8	20	65.7	9	28.0	18	56.3	19	56.9	16	48.5	18	52.0	20	56.2
Middlesex	6	34.4	5	21.6	10	55.5	9	48.5	10	53.2	10	50.4	8	36.9	9	44.3	14	60.9	14	60.4
Monmouth	9	33.9	9	32.8	13	48.9	11	40.0	14	48.3	9	30.8	16	48.5	14	42.0	15	44.4	11	34.4
Passaic	11	43.5	8	31.2	8	27.9	15	47.0	12	36.1	13	41.1	13	31.4	9	25.9	15	42.5	22	69.3
Union	21	50.5	24	55.3	21	45.1	19	41.0	25	53.1	23	50.0	13	26.9	25	50.7	21	41.2	25	49.0
State	**240**	**50.5**	**216**	**44.0**	**234**	**47.0**	**241**	**46.9**	**235**	**45.1**	**239**	**44.4**	**266**	**47.9**	**270**	**48.4**	**240**	**41.5**	**282**	**48.5**

*Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Cases of unknown county are included in the State numbers and rates. Counties with six or more consecutive years of fewer than five cases each year were removed from the table – Cape May, Cumberland, Gloucester, Hunterdon, Morris, Ocean, Salem, Somerset, Sussex, and Warren counties. The dashes indicate fewer than five cases. The years 1979-1987 are not included; 1979-1996 are included in earlier reports. Source: New Jersey State Cancer Registry.

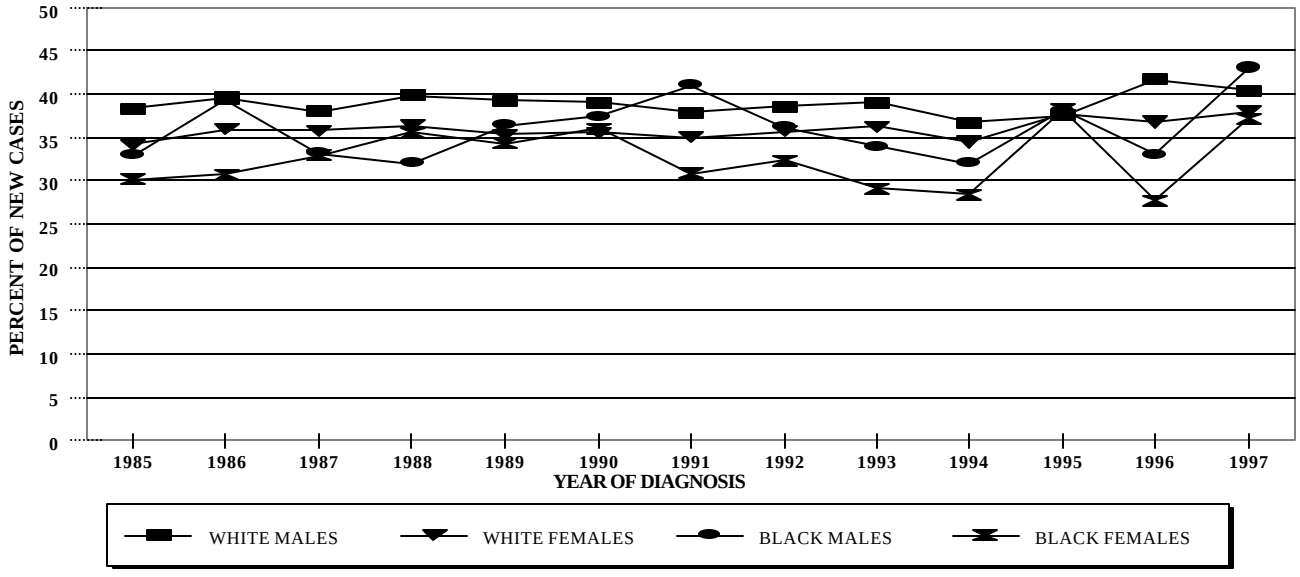
STAGE AT DIAGNOSIS

Stage at Diagnosis — 1985-1997

Between 1985 and 1997, the annual percentage of patients diagnosed with colorectal cancer in the earlier stages (*in situ* and local) rose from 33.4 percent to 39.3 percent. (See Figure 7 and Table 24 in Appendix II.) In 1997, the percent diagnosed in earlier stages was very similar in the four gender and race groups, ranging from 37.2 percent among black women to 43.1 percent among black males. The increase in the percent of cases diagnosed in the *in situ* and localized stages was greatest among black men, increasing 31 percent from 33.0 percent in 1985 to 43.1 percent in 1997. Similarly, black women had a greater increase than white women in the percent of colorectal cancer diagnosed in the earlier stages, with an increase of nearly 24 percent for black women, and just 12 percent for white women. White men had the smallest increase in early stage diagnosis, less than 6 percent. (See Figure 7 and Tables 24 through 28 in Appendix II.)

Note that in contrast to other parts of this Report, this section includes colorectal cancer cases diagnosed in the *in situ* as well as invasive stages.

FIGURE 7
COLORECTAL CANCER PERCENT EARLY STAGE AT DIAGNOSIS
BY GENDER AND RACE NEW JERSEY – 1985-1997*



*Includes *in situ* and local cases. The years 1979 through 1984 are not included because of the large percentage of cases with an unknown stage at diagnosis.

Stage at Diagnosis by County – 1985-1997

The percentage of colorectal cancer cases diagnosed in the early stages (*in situ* and localized) also varied by county of residence, although the variation was small for each stage. (See Tables 6 through 10.) Salem county had the highest percentage of cases diagnosed in the early stages for white men and black women. Gloucester county had the highest percentage of early stage diagnoses for black men, and Warren county had the highest proportion of early stage diagnoses for white women.

TABLE 6
INCIDENT COLORECTAL CANCER STAGE AT DIAGNOSIS
BY COUNTY, NEW JERSEY – 1985-1997*

COUNTY	STAGE AT DIAGNOSIS					
	TOTAL	*IN SITU*	LOCALIZED	REGIONAL	DISTANT	UNKNOWN
	Number	Percent	Percent	Percent	Percent	Percent
Atlantic	2,695	11.7	28.8	33.1	14.7	11.7
Bergen	9,281	7.4	31.5	34.9	15.1	11.1
Burlington	3,366	7.6	26.7	39.7	15.7	10.2
Camden	4,443	7.0	30.9	32.3	16.8	12.9
Cape May	1,621	8.4	30.1	36.5	14.3	10.7
Cumberland	1,315	6.1	29.4	38.0	15.9	10.6
Essex	7,284	7.8	30.5	34.4	17.3	10.0
Gloucester	1,884	5.7	30.4	35.1	16.3	12.4
Hudson	5,409	10.1	28.6	35.3	16.5	9.5
Hunterdon	869	9.9	29.9	32.9	15.3	12.0
Mercer	3,098	5.4	27.7	38.3	18.2	10.5
Middlesex	5,744	6.3	29.3	34.6	17.2	12.7
Monmouth	5,464	5.5	29.8	36.4	16.2	12.1
Morris	3,492	8.1	29.0	35.8	17.2	9.9
Ocean	6,873	7.1	26.8	37.6	14.4	14.1
Passaic	4,244	6.5	30.9	36.1	16.5	10.0
Salem	673	10.0	34.3	31.1	17.1	7.6
Somerset	1,809	6.4	31.1	36.9	14.7	10.9
Sussex	1,000	7.4	32.3	30.8	17.4	12.1
Union	5,417	6.5	32.0	36.2	16.7	8.5
Warren	1,076	8.7	34.1	35.3	14.6	7.2
Unknown	99	10.1	24.2	15.2	8.1	42.4
State	77,156	7.4	29.8	35.5	16.2	11.1

* Includes invasive and *in situ* cases. Cases of unknown county are included in state number and percents.

TABLE 7
PERCENT INCIDENT COLORECTAL CANCER STAGE AT DIAGNOSIS
BY COUNTY, WHITE MALES, NEW JERSEY – 1985-1997*

COUNTY	STAGE AT DIAGNOSIS					
	TOTAL	*IN SITU*	LOCALIZED	REGIONAL	DISTANT	UNKNOWN
	Number	Percent	Percent	Percent	Percent	Percent
Atlantic	1,188	13.7	28.8	31.7	15.2	10.6
Bergen	4,587	8.2	32.5	34.1	14.7	10.4
Burlington	1,568	7.9	29.0	37.8	15.1	10.3
Camden	1,972	8.2	32.2	31.5	17.1	11.0
Cape May	804	8.8	31.7	38.9	11.8	8.7
Cumberland	627	5.4	31.7	36.4	16.1	10.4
Essex	2,545	8.6	32.5	33.4	16.4	9.2
Gloucester	860	6.3	30.6	34.2	16.5	12.4
Hudson	2,449	10.8	30.5	34.4	16.3	8.0
Hunterdon	451	11.8	30.6	32.2	13.1	12.4
Mercer	1,368	5.1	29.1	38.1	17.5	10.2
Middlesex	2,975	6.9	29.9	33.7	17.5	12.0
Monmouth	2,581	6.3	30.6	35.4	16.3	11.4
Morris	1,758	9.3	29.9	35.3	16.7	8.7
Ocean	3,566	7.8	27.6	36.7	13.8	14.1
Passaic	2,003	7.5	30.9	35.4	17.2	9.0
Salem	298	10.7	36.2	31.2	16.1	5.7
Somerset	898	7.3	31.0	35.3	15.8	10.6
Sussex	509	7.3	33.8	30.3	18.7	10.0
Union	2,413	7.5	32.7	35.0	16.6	8.2
Warren	547	9.5	34.4	35.8	15.0	5.3
State	**36,015**	**8.1**	**30.8**	**34.8**	**15.9**	**10.4**

*Includes invasive and *in situ* cases. Cases of unknown county are included in state number and percents.

TABLE 8
PERCENT INCIDENT COLORECTAL CANCER BY STAGE AT DIAGNOSIS BY COUNTY, WHITE FEMALES, NEW JERSEY – 1985-1997*

COUNTY	STAGE AT DIAGNOSIS					
	TOTAL	*IN SITU*	LOCALIZED	REGIONAL	DISTANT	UNKNOWN
	Number	Percent	Percent	Percent	Percent	Percent
Atlantic	1,173	9.3	29.8	35.0	13.2	12.8
Bergen	4,392	6.6	31.0	35.5	15.0	11.8
Burlington	1,477	6.6	26.0	41.2	15.9	10.3
Camden	2,026	5.8	30.3	32.9	16.5	14.5
Cape May	764	8.1	28.7	33.8	16.6	12.8
Cumberland	568	7.0	28.2	40.1	13.9	10.7
Essex	2,663	7.2	30.2	36.5	15.3	10.9
Gloucester	894	5.0	29.1	36.6	16.8	12.5
Hudson	2,494	9.9	27.6	35.6	15.8	11.1
Hunterdon	406	8.1	29.6	33.0	17.5	11.8
Mercer	1,330	5.0	27.2	38.6	17.7	11.5
Middlesex	2,550	5.4	29.1	35.3	16.8	13.4
Monmouth	2,574	4.5	30.1	37.1	15.4	12.8
Morris	1,665	6.7	28.3	36.4	17.4	11.2
Ocean	3,243	6.5	26.0	38.6	15.1	13.8
Passaic	1,929	5.4	30.8	36.5	15.9	11.4
Salem	293	8.9	32.4	32.1	17.1	9.6
Somerset	829	5.4	30.9	39.1	12.4	12.2
Sussex	481	7.7	31.0	31.6	15.2	14.6
Union	2,397	5.8	32.0	37.3	15.9	9.1
Warren	522	7.9	34.1	34.9	14.2	9.0
State	**34,712**	**6.5**	**29.4**	**36.4**	**15.7**	**12.0**

* Includes invasive and *in situ* cases. Cases of unknown county are included in state number and percents.

TABLE 9
INCIDENT COLORECTAL CANCER STAGE AT DIAGNOSIS
BY COUNTY, BLACK MALES, NEW JERSEY – 1985-1997*

COUNTY	STAGE AT DIAGNOSIS					
	TOTAL	*IN SITU*	LOCALIZED	REGIONAL	DISTANT	UNKNOWN
	Number	Percent	Percent	Percent	Percent	Percent
Atlantic	145	15.9	26.2	30.3	20.7	6.9
Bergen	133	8.3	24.8	29.3	24.1	13.5
Burlington	187	12.3	18.2	42.2	15.5	11.8
Camden	222	8.6	29.7	33.8	15.8	12.2
Cape May	21	9.5	23.8	42.9	19.0	4.8
Cumberland	64	1.6	20.3	39.1	26.6	12.5
Essex	944	7.9	28.7	34.4	20.0	8.9
Gloucester	65	6.2	44.6	30.8	12.3	6.2
Hudson	203	7.4	26.6	37.4	20.2	8.4
Mercer	197	7.1	22.8	37.6	24.9	7.6
Middlesex	96	10.4	20.8	38.5	17.7	12.5
Monmouth	143	7.0	27.3	31.5	23.1	11.2
Morris	30	3.3	23.3	33.3	23.3	16.7
Ocean	29	3.4	24.1	41.4	10.3	20.7
Passaic	140	5.7	35.7	32.1	17.9	8.6
Salem	48	10.4	33.3	31.3	18.8	6.3
Somerset	45	6.7	42.2	28.9	22.2	0.0
Union	307	5.2	34.9	33.2	19.5	7.2
State	**3,038**	**8.0**	**28.2**	**34.6**	**19.8**	**9.3**

* Includes invasive and *in situ* cases. Cases of unknown county are included in state number and percents. Counties with fewer than twenty total cases were removed from the table – Hunterdon, Sussex, and Warren Counties.

TABLE 10
INCIDENT COLORECTAL CANCER STAGE AT DIAGNOSIS
BY COUNTY, BLACK FEMALES, NEW JERSEY – 1985-1997*

COUNTY	STAGE AT DIAGNOSIS					
	TOTAL	*IN SITU*	LOCALIZED	REGIONAL	DISTANT	UNKNOWN
	Number	Percent	Percent	Percent	Percent	Percent
Atlantic	189	10.1	24.9	32.8	16.4	15.9
Bergen	169	3.0	23.7	40.8	23.1	9.5
Burlington	134	8.2	20.9	43.3	20.1	7.5
Camden	223	6.7	26.9	33.2	17.5	15.7
Cape May	32	3.1	28.1	37.5	15.6	15.6
Cumberland	56	8.9	25.0	33.9	21.4	10.7
Essex	1,132	7.3	28.4	31.7	21.8	10.8
Gloucester	65	7.7	30.8	32.3	12.3	16.9
Hudson	263	7.6	22.4	38.8	22.8	8.4
Mercer	203	8.9	25.6	37.4	19.7	8.4
Middlesex	123	8.9	24.4	37.4	17.1	12.2
Monmouth	166	5.4	15.1	44.6	22.3	12.7
Morris	39	15.4	20.5	35.9	23.1	5.1
Ocean	35	2.9	25.7	25.7	22.9	22.9
Passaic	172	7.0	27.3	44.2	13.4	8.1
Salem	34	11.8	35.3	20.6	23.5	8.8
Somerset	37	5.4	24.3	35.1	29.7	5.4
Union	300	5.7	24.0	40.7	22.0	7.7
State	**3,391**	**7.2**	**25.4**	**36.0**	**20.5**	**10.8**

* Includes invasive and *in situ* cases. Cases of unknown county are included in state number and percents. Counties with fewer than twenty total cases were removed from the table – Hunterdon, Sussex, and Warren Counties.

COLORECTAL CANCER SUBSITES

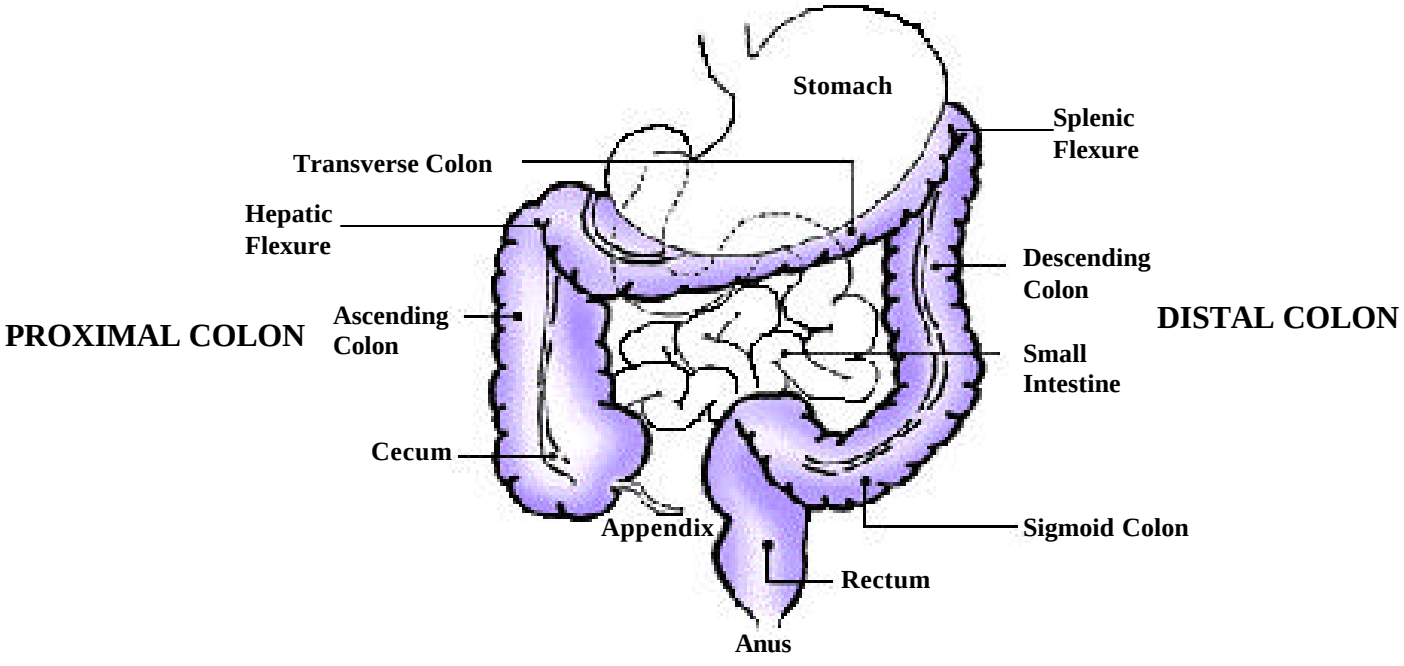
Incidence and Incidence Rates by Subsites – 1979-1997

Colorectal cancer includes cancers of both the colon and the rectum. For the purpose of this analysis, the colon is divided into two regions: the proximal colon (including the cecum, appendix, ascending colon, hepatic flexure, transverse colon and splenic flexure), and the distal colon (including the descending colon, sigmoid colon, and large intestine, not otherwise specified (NOS)). The rectum is comprised of the rectum and the rectosigmoid junction. (See Figure 8.) It is important to characterize colorectal cancer by subsite because risk factors, incidence, stage at diagnosis, and mortality differ among subsites. The incidence trends of the three colorectal cancer subsites differed. Proximal colon cancer incidence rates increased between1979 and1985, then leveled off. Distal colon cancer incidence rates decreased steadily between 1979 and 1997, and rectal cancer incidence rates increased from 1979 to 1985, then steadily decreased.

White women and black men and women had about the same proportions of proximal, distal, and rectal cancer. White men, however, had a higher proportion of rectal cancer and a lower proportion of proximal colon cancer than did the other gender and race groups. (See Table 11.)

FIGURE 8

DIAGRAM OF THE COLON AND RECTUM



Source: Centers for Disease Control and Prevention, 2000.

TABLE 11

COLORECTAL CANCER INCIDENCE BY SUBSITE, NEW JERSEY – 1979-1997*

SITE	White						Black					
	Male			Female			Male			Female		
	Number	Rate	%	Number	Rate	%	Number	Rate	%	Number	Rate	%
Colon	33,229	41.7	69.1	35,248	30.0	74.3	2,807	38.8	69.6	3,380	31.6	78.4
Proximal Colon	**14,836**	**21.8**	**30.9**	**17,198**	**16.7**	**36.2**	**1,377**	**22.2**	**35.8**	**1,654**	**18.0**	**38.4**
Cecum	5,478	8.2	11.4	6,859	6.6	14.5	479	7.7	12.5	608	6.7	14.1
Appendix	192	0.3	0.4	220	0.3	0.5	22	0.3	0.6	27	0.3	0.6
Ascending Colon	4,366	6.5	9.1	5,075	5.0	10.7	397	6.5	10.3	452	5.0	10.5
Hepatic Flexure	1,164	1.7	2.4	1,128	1.1	2.4	117	1.9	3.4	109	1.2	2.5
Transverse Colon	2,460	3.7	5.1	2,940	2.9	6.2	206	3.4	5.4	314	3.5	7.3
Splenic Flexure	1,176	1.8	2.4	976	1.0	2.3	156	2.6	4.1	144	1.6	3.3
Distal Colon	**18,393**	**20.0**	**38.2**	**18,050**	**13.4**	**38.0**	**1,430**	**16.6**	**37.2**	**1,726**	**13.5**	**40.1**
Descending Colon	2,512	3.7	5.2	2,224	2.3	4.7	244	4.0	6.4	321	3.6	7.4
Sigmoid Colon	10,945	16.3	22.8	10,357	11.0	21.8	776	12.6	20.2	902	10.0	20.9
Large Intestine, NOS	4,936	7.4	10.3	5,469	5.4	11.5	410	6.6	10.7	503	5.6	11.7
Rectum	**14,858**	**22.1**	**30.9**	**12,203**	**13.0**	**25.7**	**1,035**	**16.4**	**26.9**	**929**	**10.2**	**21.6**
Rectosigmoid Junction	5,440	8.1	11.3	4,663	5.0	9.8	360	5.7	9.4	345	3.8	8.0
Rectum	9,418	14.0	19.6	7,540	8.0	16.0	675	10.7	17.6	584	6.4	13.6
Total Colorectal	**48,087**	**63.8**	**100.0**	**47,451**	**43.0**	**100.0**	**3,842**	**55.2**	**100.0**	**4,309**	**41.8**	**100.0**

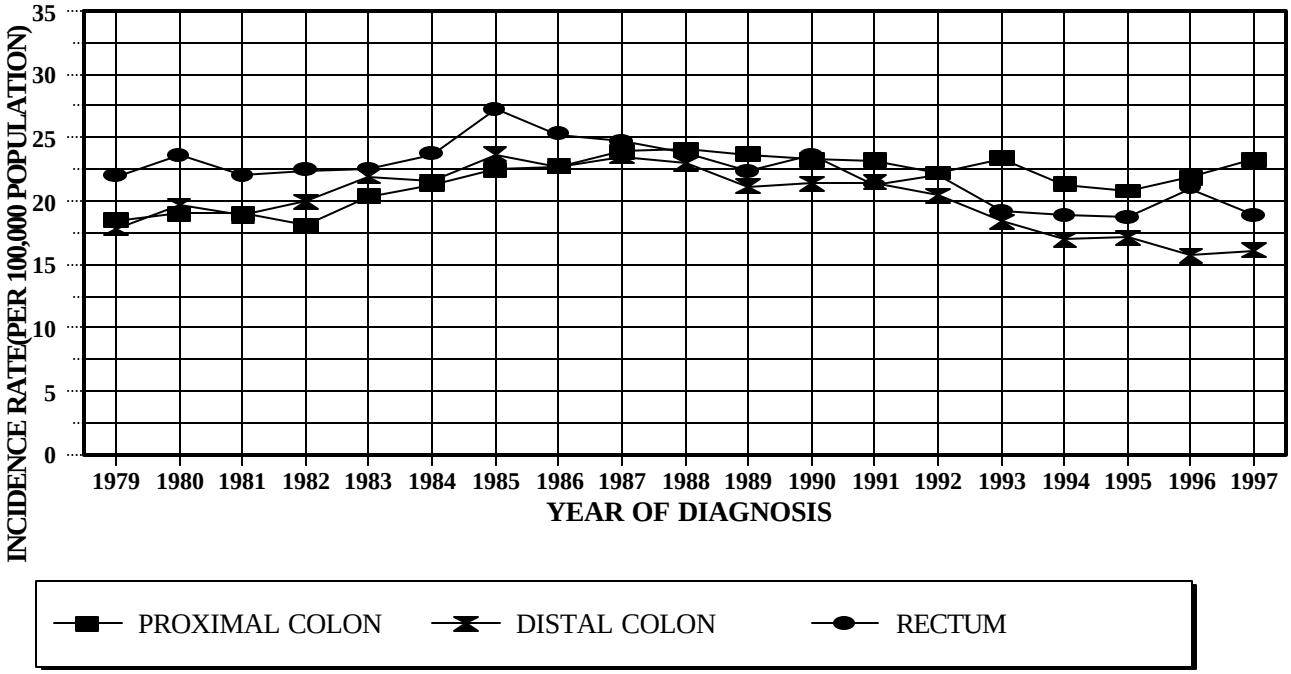
* Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. standard population. Does not include *in situ* colorectal cancer cases.

Incidence and Incidence Rates by Subsite and Race and Gender

For the years 1979 through 1997 combined, incidence rates were highest for cancers of the proximal colon in all the race and gender groups except white males. Prior to 1984, however, distal colon cancer incidence rates were higher than rates for the other two subsites in all four groups. Over the nineteen year period, the incidence rates of proximal colon cancer increased among all the race and gender groups and distal colon cancer declined among all the race and gender groups. Rectal cancer decreased among white men and women, but increased among black men and women. (See Figures 9 through 12 and Tables 29 through 32 in Appendix II.)

FIGURE 9

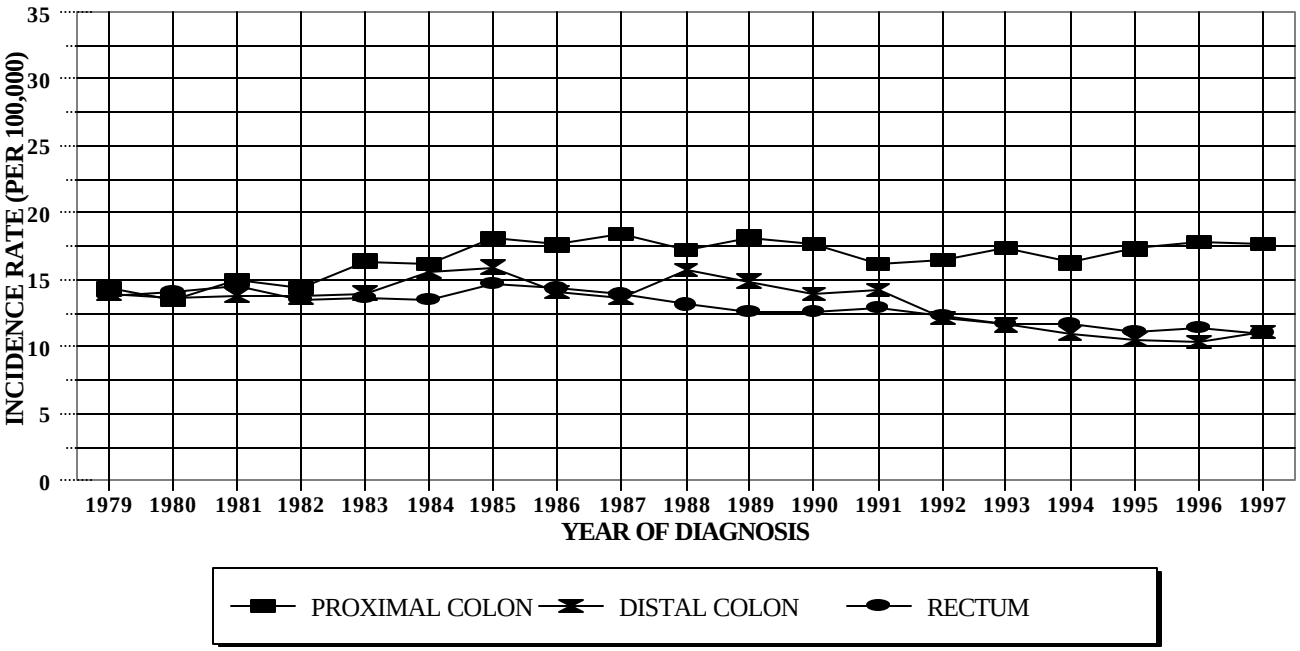
COLORECTAL CANCER INCIDENCE RATES BY SUBSITE, WHITE MALES, NEW JERSEY – 1979-1997*



*Age-adjusted to the 1970 U.S. standard population.

FIGURE 10

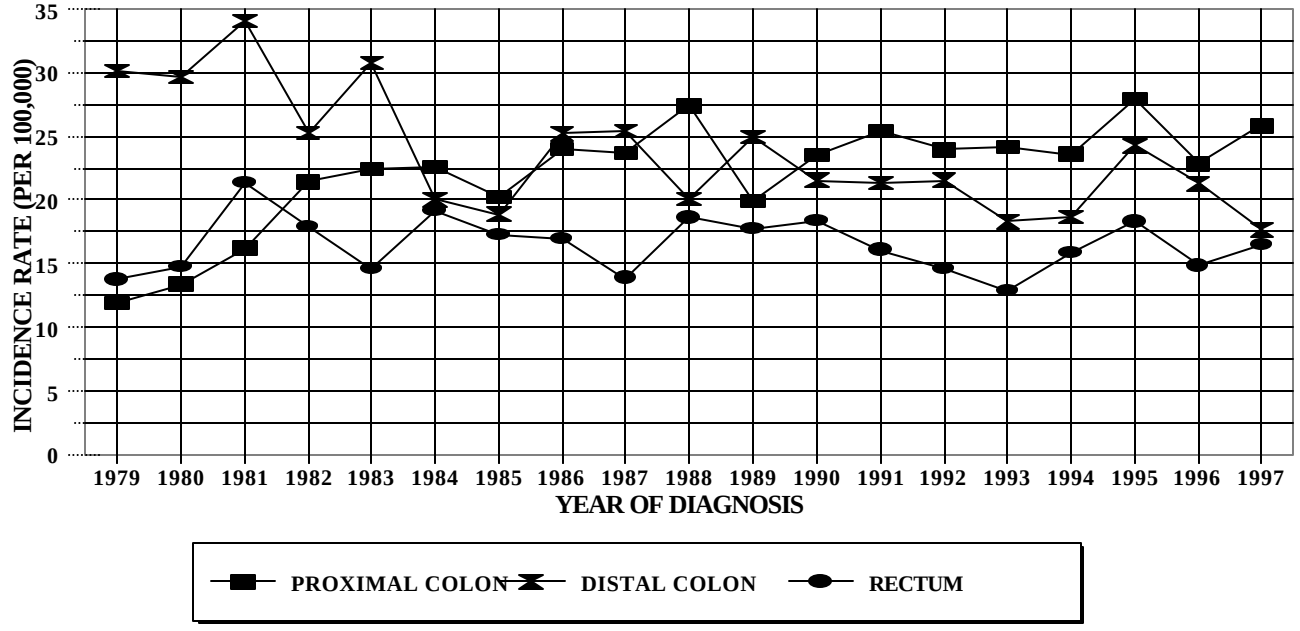
COLORECTAL CANCER INCIDENCE RATES
BY SUBSITE, WHITE FEMALES, NEW JERSEY – 1979-1997*



*Age-adjusted to the 1970 U.S. standard population.

FIGURE 11

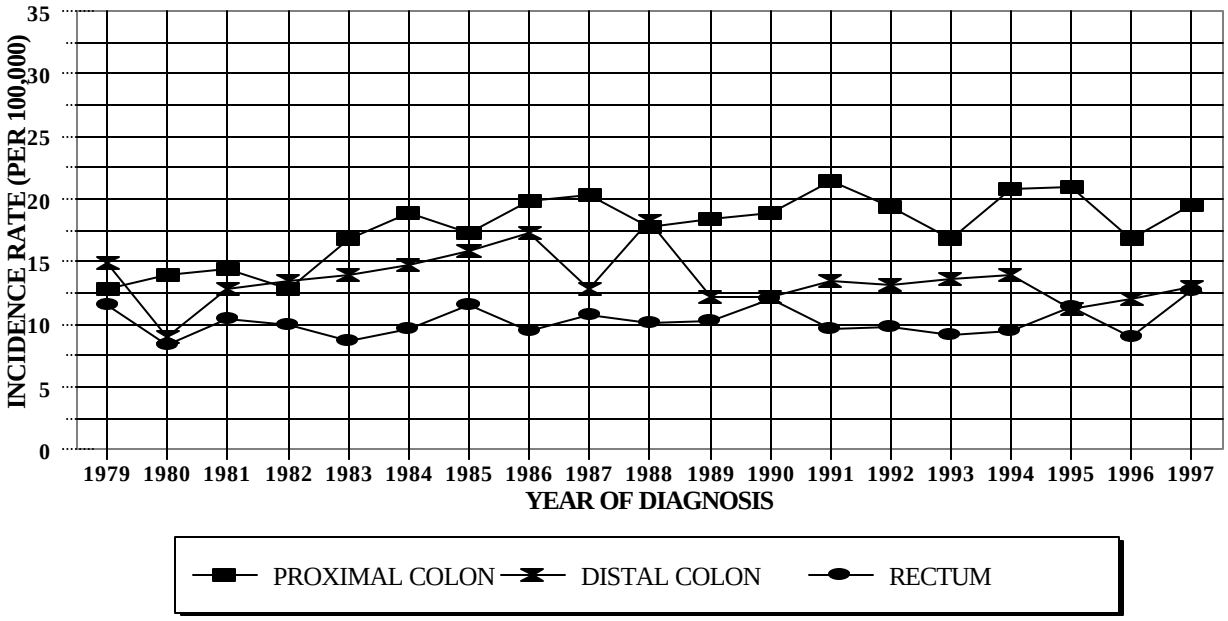
COLORECTAL CANCER INCIDENCE RATES
BY SUBSITE, BLACK MALES, NEW JERSEY - 1979-1997*



*Age-adjusted to the 1970 U.S. standard population.

FIGURE 12

COLORECTAL CANCER INCIDENCE RATES
BY SUBSITE, BLACK FEMALES, NEW JERSEY - 1979-1997 *



* Age-adjusted to the 1970 U.S. standard population.

Age-Specific Incidence Rates by Subsite

For the years 1979 through 1997 combined, the incidence rates generally increased with increasing age for all three subsites for all gender and race groups. Distal colon cancer had the highest incidence rates in the younger age groups, but proximal colon cancer incidence rates were greater than the other two subsites in the oldest age groups. (See Figures 13 though 16 and Tables 33 through 36 in Appendix II.)

FIGURE 13

AGE-SPECIFIC COLORECTAL CANCER INCIDENC RATES BY SUBSITE, WHITE MALES, NEW JERSEY - 1979-1997*

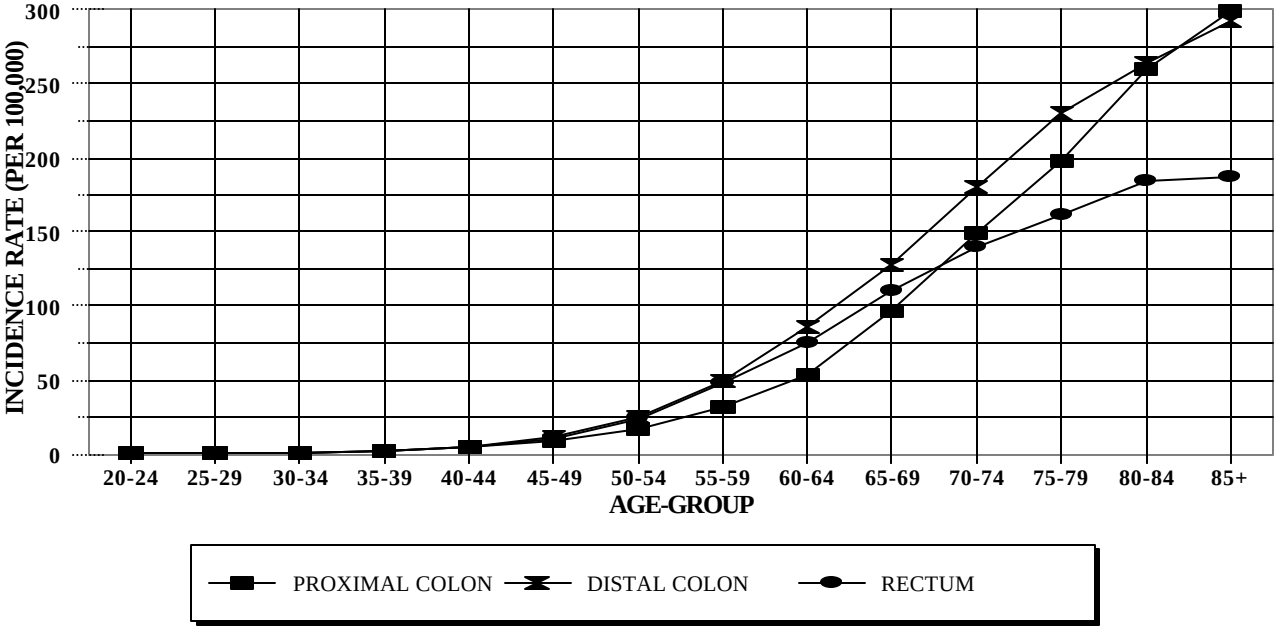


FIGURE 14

AGE-SPECIFIC COLORECTAL CANCER INCIDENCE RATES BY SUBSITE, WHITE FEMALES, NEW JERSEY - 1979-1997*

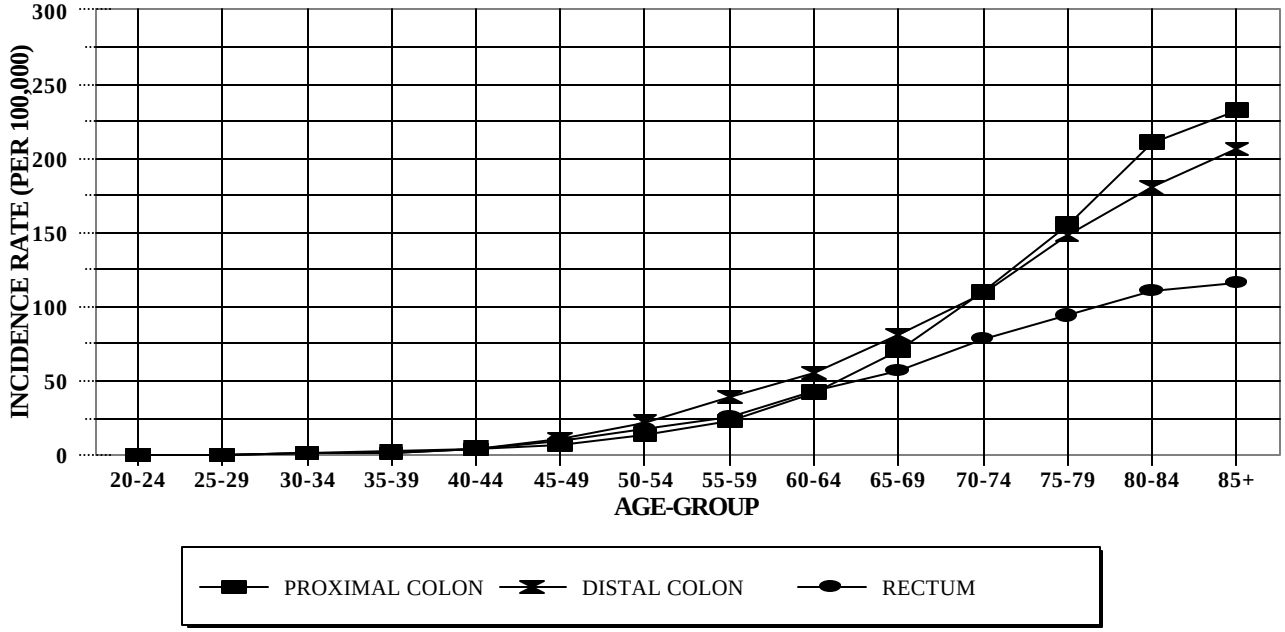


FIGURE 15

AGE-SPECIFIC COLORECTAL CANCER INCIDENCE RATES BY SUBSITE, BLACK MALES, NEW JERSEY - 1979-1997*

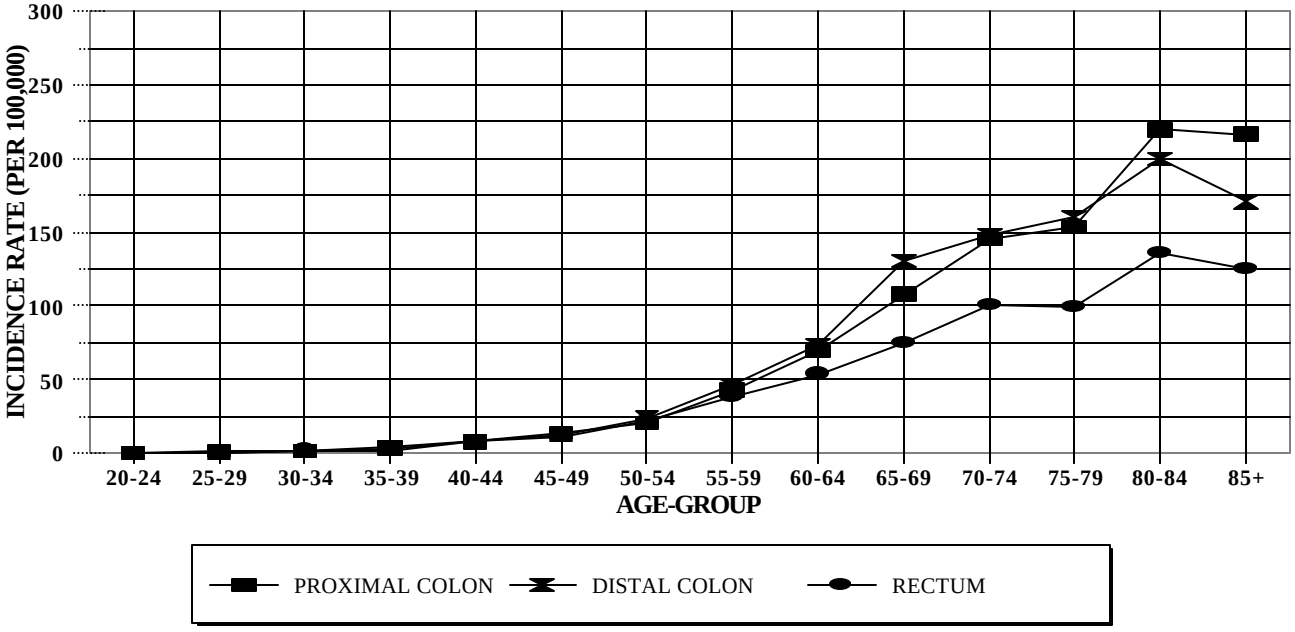
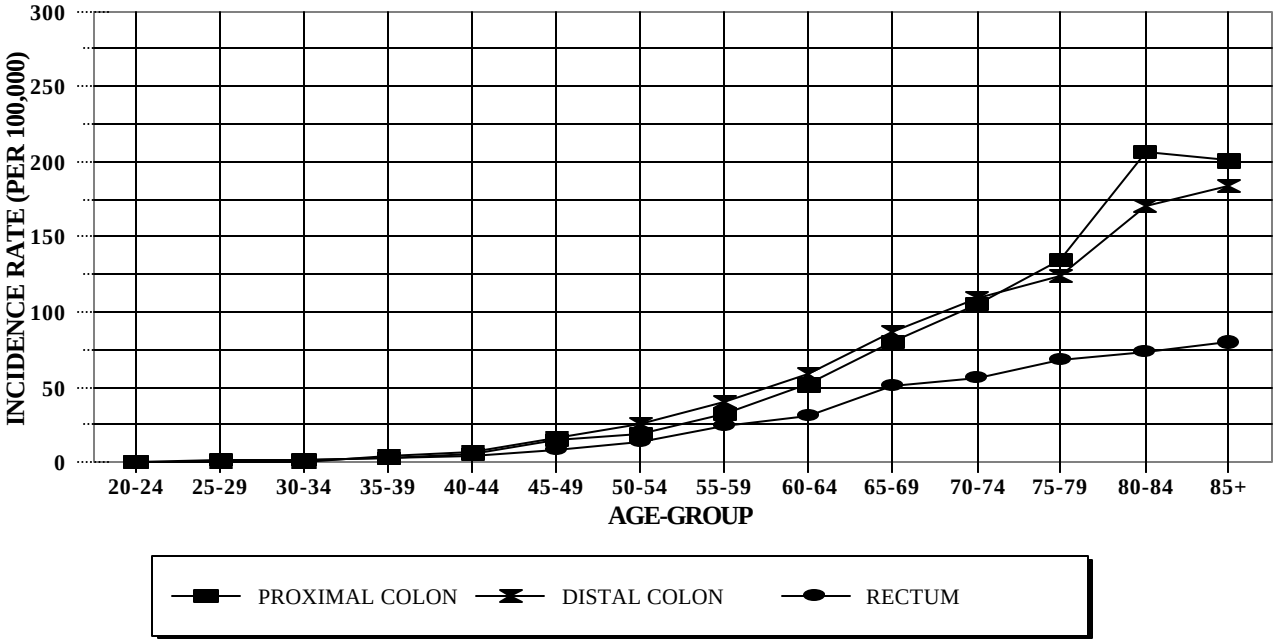


FIGURE 16

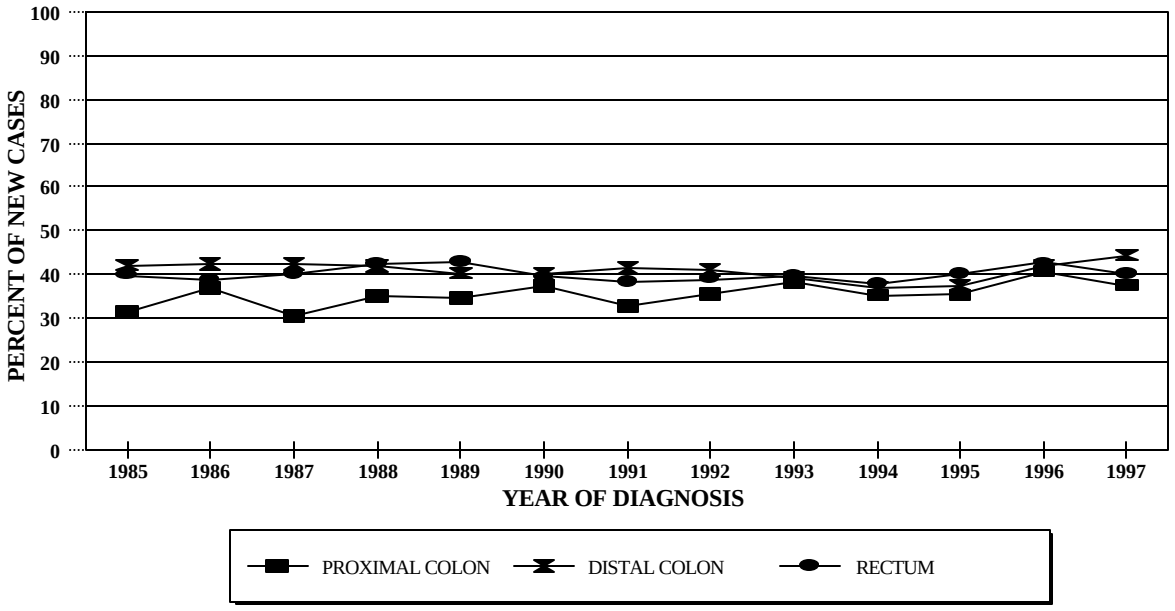
AGE-SPECIFIC COLORECTAL CANCER INCIDENCE RATES BY SUBSITE, BLACK FEMALES, NEW JERSEY - 1979-1997*



Subsite Stage at Diagnosis – 1985-1997

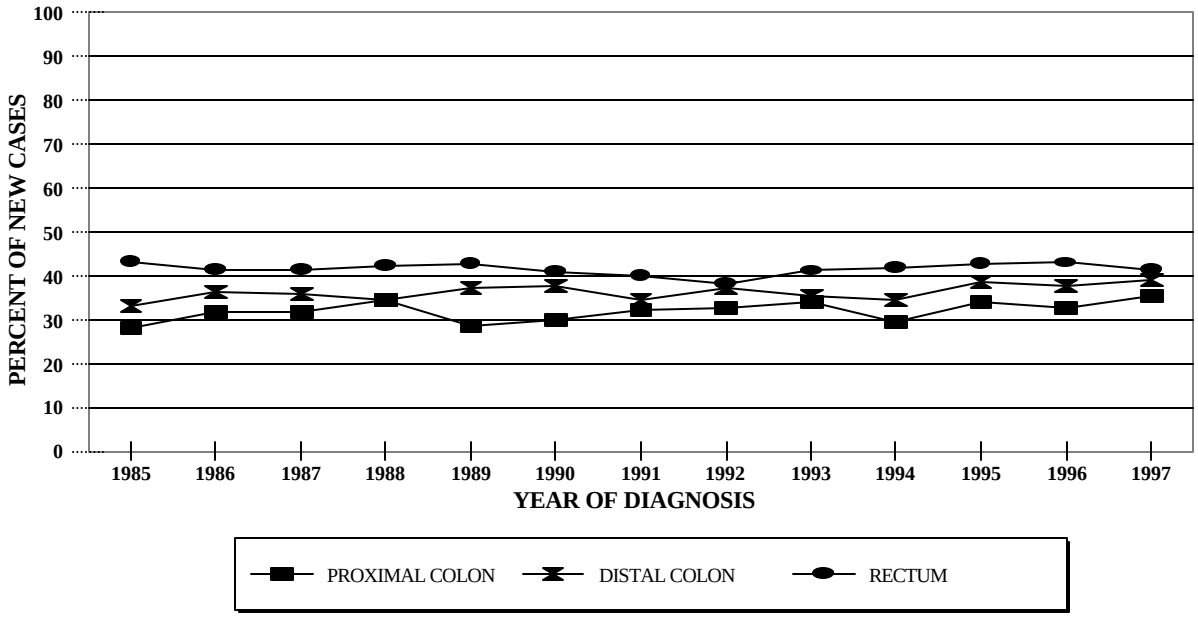
Between the years of 1985 and 1997, the percent of proximal and distal colon cancers diagnosed in the earlier stages (*in situ* and localized) generally increased for all gender and race groups. For men of both races and white women, the percent of cases diagnosed at the *in situ* and localized stages increased for colon cancer but decreased for rectal cancer. Black women were diagnosed in the early stages at increasingly higher percentages for both colon and rectal cancer between 1985 and 1997. Black men and white women showed the greatest increases in early stage diagnoses for proximal and distal colon cancers. (See Figures 17 through 20 and Tables 37 through 48 in Appendix II).

FIGURE 17
COLORECTAL CANCER PERCENT EARLY STAGE AT DIAGNOSIS
BY SUBSITE, WHITE MALES, NEW JERSEY – 1985-1997*



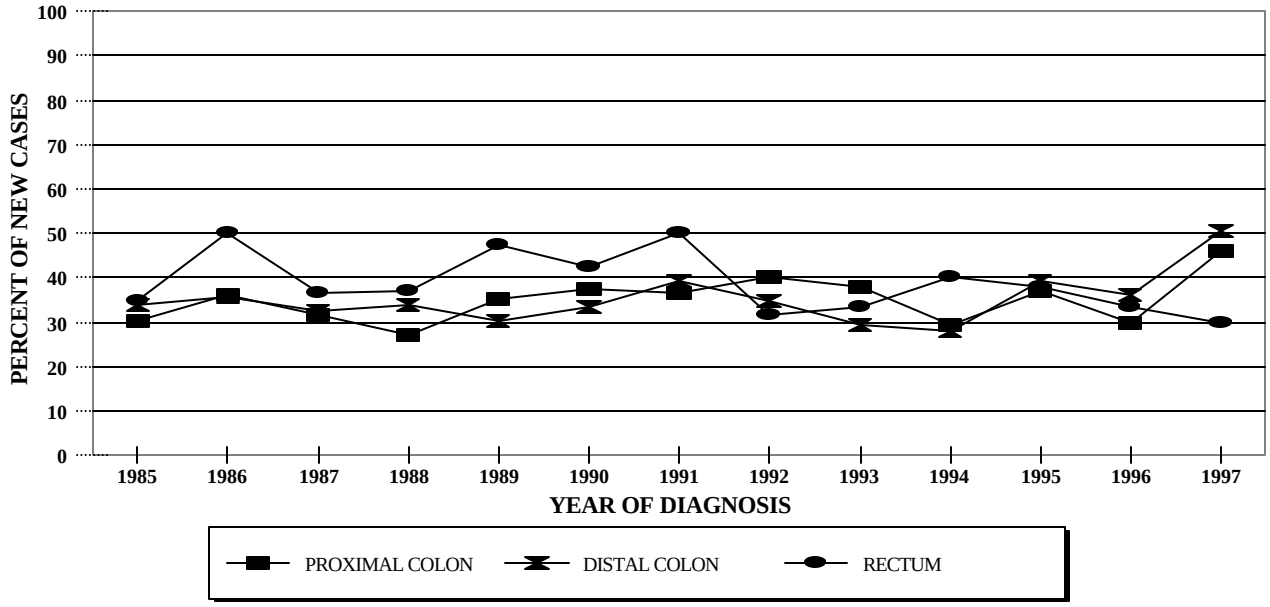
**In Situ* and localized stages.

FIGURE 18
COLORECTAL CANCER PERCENT EARLY STAGE AT DIAGNOSIS
BY SUBSITE, WHITE FEMALES, NEW JERSEY – 1985-1997*



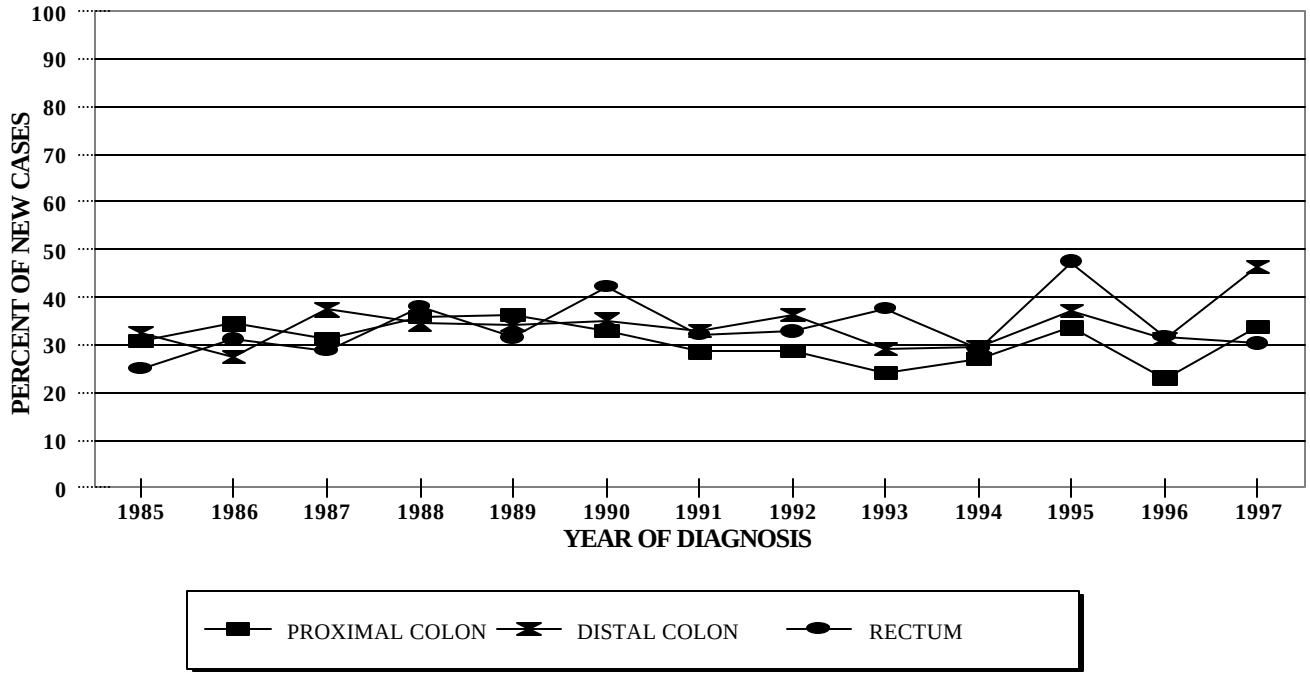
**In Situ* and localized stages.

FIGURE 19
COLORECTAL CANCER PERCENT EARLY STAGE AT DIAGNOSIS
BY SUBSITE, BLACK MALES, NEW JERSEY – 1985-1997*



**In Situ* and localized stages.

FIGURE 20
COLORECTAL CANCER PERCENT EARLY STAGE AT DIAGNOSIS
BY SUBSITE, BLACK FEMALES, NEW JERSEY – 1985-1997*



**In Situ* and localized stages .

MORTALITY

Overall Mortality – 1979-1997

Colorectal cancer currently accounts for 12 percent of all cancer deaths among New Jersey residents. From 1979 to 1983, the annual number of deaths among men and women due to colorectal cancer rose from 2,304 to 2,415. After 1983 this number decreased to 1,990 cases in 1997. Between 1979 and 1985 the age-adjusted mortality rate fluctuated between 27 per 100,000 and 25 per 100,000, then steadily declined to just below 18 per 100,000 in 1997. The preliminary colorectal cancer mortality data for 1998 show a continued decline in age-adjusted mortality rates for all groups, with the exception of white women, whose rate increased slightly. The 1998 mortality rate of black men, at 25.1 per 100,000, was still greater than that of white men, at 20.2 per 100,000. The same was true of women, with black women at 19.2 deaths per 100,000, and white women at 14.7 per 100,000. (See Figures 21 and 22 and Tables 49 and 50 in Appendix II.)

FIGURE 21

COLORECTAL CANCER MORTALITY BY YEAR, NEW JERSEY – 1979-1997

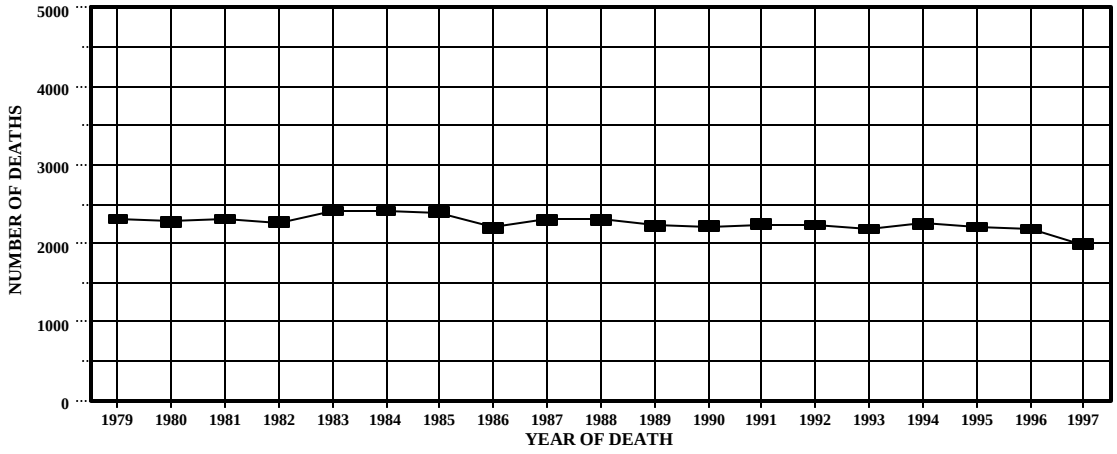
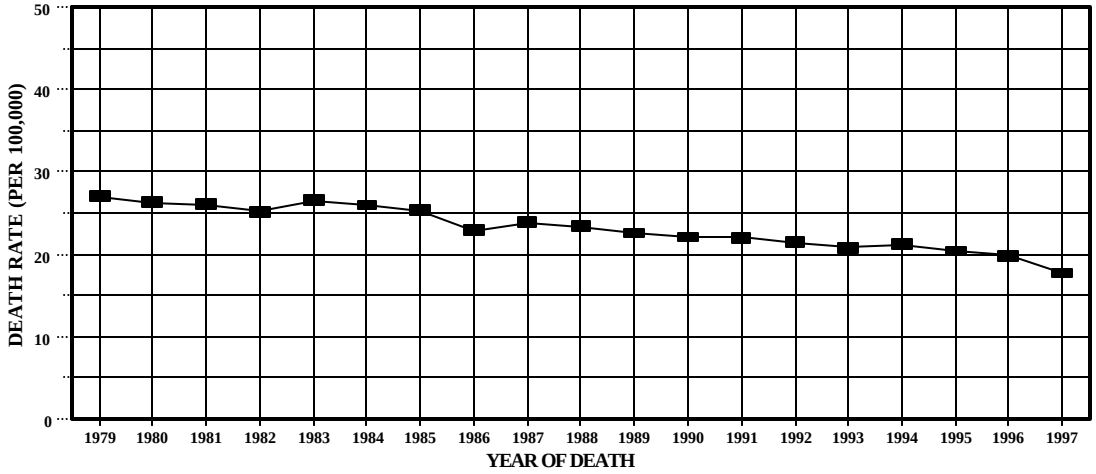


FIGURE 22

COLORECTAL CANCER MORTALITY RATES BY YEAR, NEW JERSEY – 1979-1997*

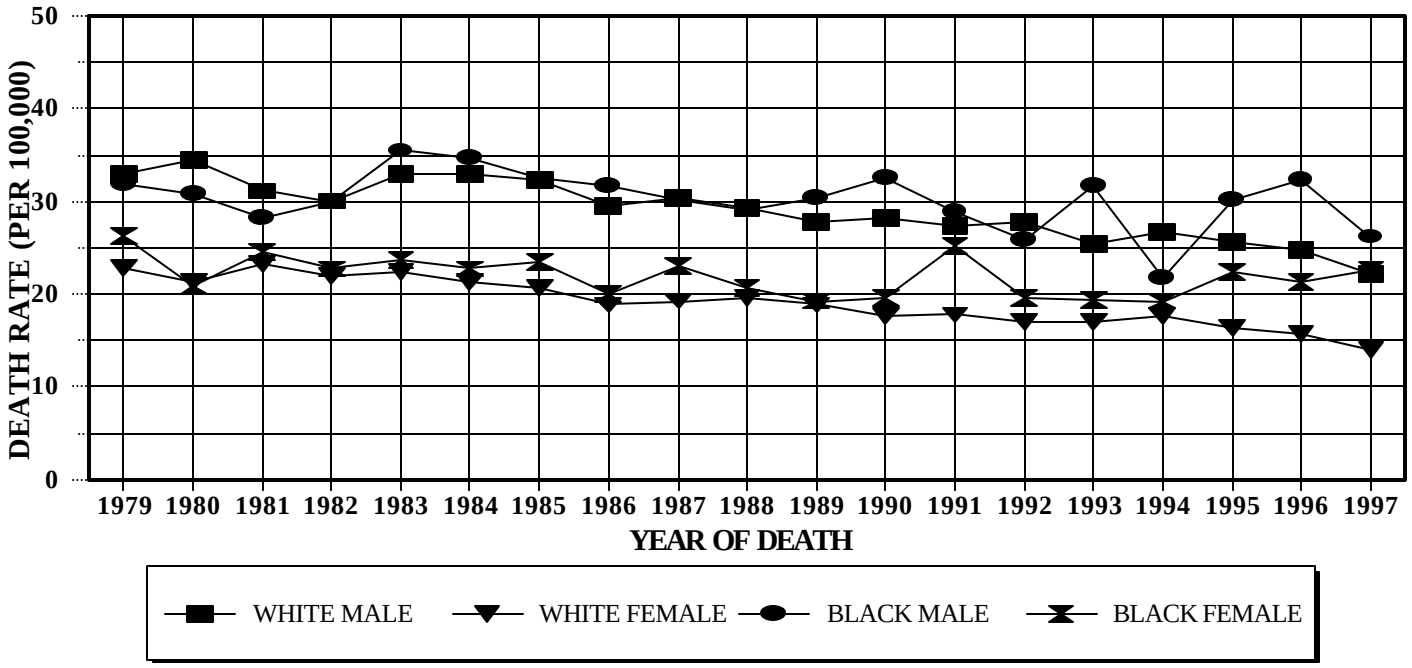


Age-Adjusted Mortality Rates by Race and Gender – 1979-1997

The annual age-adjusted mortality rates for women were consistently lower than those for men from 1979 through 1997, regardless of race. For each of the years from 1979 to 1994, black women had higher, but similar mortality rates compared to white women. After 1994, the rates diverged. Black women's mortality rates increased to just over 22 per 100,000 and leveled off, while white women's mortality rates decreased to 14 per 100,000 in 1997, over a third less than that of black women in 1997. The age-adjusted mortality rate of black women dropped in 1998 to 19.2, but remained above that of white women, which increased slightly to 14.7 per 100,000. Black men had higher mortality rates than white men for many of the years, including the last three years (1995 through 1997). Similarly, preliminary data for 1998 show the mortality rates for white and black men at 20.2 and 25.0, respectively. (See Figure 23 and Tables 49 and 50 in Appendix II.)

FIGURE 23

COLORECTAL CANCER MORTALITY RATES
BY GENDER AND RACE, NEW JERSEY – 1979-1997*



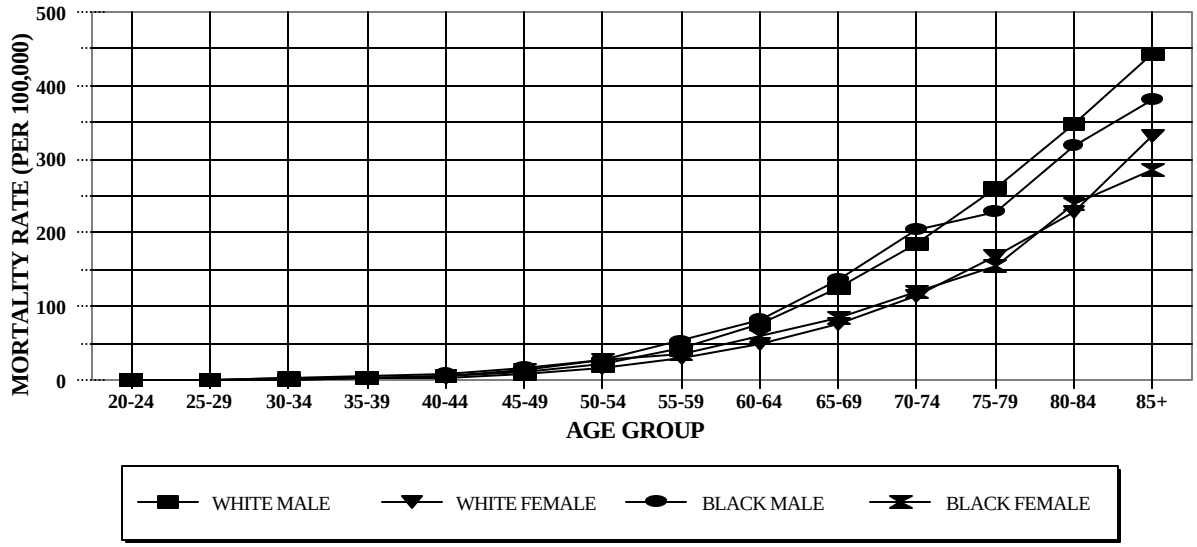
*Age-adjusted to the 1970 U.S. population.

Age-Specific Mortality Rates by Race and Gender – 1979-1997

For all genders and races, age-specific mortality rates increased with age for the years 1979 through 1997, combined. Men had consistently higher mortality rates than women for all of the five-year age-groups. For all age-groups, up to and including the 70-74 age-group, black men had higher age-specific mortality rates than white men, despite having had lower incidence rates than white men. For ages above 75, white men had higher mortality rates, as well as higher incidence rates, compared to black men. (See Figure 4.) The same pattern was seen for women. (See Figure 24 and Table 51 in Appendix II.)

FIGURE 24

COLORECTAL CANCER AGE-SPECIFIC MORTALITY RATES BY RACE AND GENDER, NEW JERSEY – 1979-1997



COLORECTAL CANCER SCREENING[10, 11]

The Center for Health Statistics of the New Jersey Department of Health and Senior Services conducted a behavioral risk factor survey each year from 1991 through 1999 among a sample of New Jersey residents, the New Jersey Behavioral Risk Factor Surveillance System (NJBRFSS). The survey included questions for residents about receiving colorectal cancer screening services. Data are presented in Table 12 below from the most recent surveys, 1997 and 1999. Generally, among residents age 50 and over, a higher percentage of women than men are conducting the blood stool test with a home kit, but a higher percentage of men than women are having sigmoidoscopies. However, the majority of New Jersey residents age 50 and over had not ever had a stool test nor a sigmoidoscopy. An even higher percentage had not had these screenings at the recommended time intervals. (See Table 12 and Appendix I Recommendations Regarding Screening for Colorectal Cancer.) (Note: Data are not included by race because the number of blacks included in the survey was not sufficiently large.)

TABLE 12
PERCENT OF NEW JERSEY RESIDENTS AGE 50 AND OVER WHO HAVE HAD COLORECTAL CANCER SCREENING BY GENDER, 1997 AND 1999*

TYPE OF SCREENING	PERCENT OF MALES		PERCENT OF FEMALES	
	1997	1999	1997	1999
Ever had a blood stool test from a home kit?	32.9	41.2	38.4	47.0
Had blood stool test from a home kit in the past year?	21.5	25.5	21.8	26.6
Ever had sigmoidoscopy/ proctoscopy?	46.0	50.2	34.5	39.2
Had sigmoidoscopy/ proctoscopy in the past 5 years?	37.8	42.0	23.3	30.1

*Data are from a sample of people surveyed through the Behavioral Risk Factor Surveillance System, Center for Health Statistics, New Jersey Department of Health and Senior Services.

COLORECTAL CANCER IN NEW JERSEY COMPARED TO THE U.S.[13-15]

For the combined years 1993 through 1997, regardless of race, the age-adjusted incidence rate for colorectal cancer among New Jersey men and women was higher than the combined U.S. rate. Similarly, the age-adjusted mortality rates for all race and gender groups in New Jersey were higher than the U.S. rates. For incidence, New Jersey men of all races combined ranked highest among the 19 population-based cancer registries, although black men in New Jersey ranked eighth highest. The age-adjusted incidence rate of all New Jersey women ranked second, as did white New Jersey women. However, black New Jersey women ranked sixth. For mortality, men of all races combined also ranked first, although black men were ranked twenty-second among the 50 states. Women of all races combined ranked fourth among the 50 states for mortality, although white women were ranked third and black women were ranked twelfth. (See Tables 13 and 14.)

TABLE 13
COLORECTAL CANCER INCIDENCE AND MORTALITY
BY RACE, NEW JERSEY AND THE U.S., MALES – 1993-1997*

	WHITE		BLACK		ALL RACES	
	N.J	**U.S.**	**N.J.**	**U.S.**	**N.J.**	**U.S**
Incidence	11,925	153,671	1,157	12,682	13,379	173,104
Incidence Rate+	63.2	52.4	60.2	55.6	62.8	52.7
Incidence Rank#	1	-	8	-	1	-
Mortality	4,761	123,691	527	15,057	5,333	141140
Mortality Rate+	24.9	20.6	28.2	27.5	24.8	21.0
Mortality Rank++	1	-	22	-	1**	-

*From *Cancer in North America, 1993-1997 Volume One: Incidence*, eds. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN, North American Association of Central Cancer Registries and *Cancer in North America, 1993-1997 Volume Two: Mortality*, eds. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN, North American Association of Central Cancer Registries. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases.

+Per 100,000, age-adjusted to the U.S. 1970 standard population.

#The incidence ranks are based on the incidence rates from 19 population-based registries in the U.S. and are highest (1) to lowest (19).

++The mortality ranks are based on the mortality rates from 54 states and metropolitan areas in the U.S. and are highest (1) to lowest (54).

**A CDC report ranks New Jersey fourth for colorectal cancer mortality rates among all genders and races combined in 1999.

TABLE 14
COLORECTAL CANCER INCIDENCE AND MORTALITY BY RACE, NEW JERSEY AND THE U.S., FEMALES – 1993-1997*

	WHITE		BLACK		ALL RACES	
	N.J.	**U.S.**	**N.J.**	**U.S.**	**N.J.**	**U.S.**
Incidence	11,870	150,524	1,295	14,360	13,414	170,616
Incidence Rate+	43.1	37.1	45.9	43.3	43.4	37.5
Incidence Rank#	2	-	6	-	2	-
Mortality	4,815	125,856	594	16,724	5,452	144,757
Mortality Rate+	16.2	13.9	20.8	19.7	16.0	14.4
Mortality Rank++	3	-	12	-	4**	-

*From *Cancer in North America, 1993-1997 Volume One: Incidence*, eds. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN, North American Association of Central Cancer Registries and *Cancer in North America, 1993-1997 Volume Two: Mortality*, eds. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN, North American Association of Central Cancer Registries. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases.

+Per 100,000, age-adjusted to the U.S. 1970 standard population.

#The incidence ranks are based on the incidence rates from 19 population-based registries in the U.S. and are highest (1) to lowest (19).

++The mortality ranks are based in the mortality rates from 54 states and metropolitan areas in the U.S. and are highest (1) to lowest (54).

**A CDC report ranks New Jersey fourth for colorectal cancer mortality rates among all genders and races combined in 1999.

DISCUSSION

Incidence Trends

The steady decline from 1985 to 1997 in annual age-adjusted colorectal cancer incidence rates among New Jersey residents mirrors the national trend.[6] The reasons for this decline may include changes in diet such as increased consumption of fiber-containing foods and decreased intake of red meat and alcohol and increased physical activity. Higher use of nonsteroidal anti-inflamatory drugs such as aspirin or ibuprofen and more colorectal cancer screening with the removal of adenomatous polyps may also have contributed to the decline.[3,6]

The incidence trends of the three colorectal cancer subsites differed. Proximal colon cancer incidence rates increased between 1979 and 1985, then leveled off. Distal colon cancer incidence rates decreased steadily between 1979 and 1997 and rectal cancer incidence rates increased from 1979 to 1985, then steadily decreased. These subsite time trends were similar to those of the U.S. Overall, a steady decline in colorectal cancer incidence rates between 1985 and 1997 was observed in New Jersey. [6]

The percentage of colorectal cancers diagnosed in the earlier stages (*in situ* and local) between 1985 and 1997 increased overall and for the proximal and distal colon subsites.

Mortality Trends

The annual age-adjusted colorectal cancer death rates among New Jersey residents steadily declined between 1979 and 1997, similar to the national trend.[6] The longer-term decline in mortality is probably related to improvements in colorectal cancer treatment and the increase in the proportion of colorectal cancers diagnosed in the early stages at which the chances for survival are greatest. The decline in the incidence rate of colorectal cancer also probably affected the mortality rates.

Incidence and Mortality Trends – Differences By Gender and Race

While the overall downward trend in colorectal cancer incidence and mortality is encouraging, not all groups of New Jersey residents shared in it. Although the incidence rate among black women declined overall from 1979 to 1997, the rate increased in three of the four most recent years (1994-1997). Black men's incidence rate also increased in three of the four most recent years and was higher in 1997 than in 1979 or in 1985. Before 1994, black men and women usually had lower annual incidence rates than their white counterparts, but this reversed after 1994.

Between 1979 and 1997, proximal colon cancer incidence rates increased in all the gender and race groups, particularly in black men and women. Distal colon cancer rates decreased at about the same rate among the four groups. Rectal cancer incidence rates decreased among white men and women, but increased among black men and women. Thus, the differences among the race and gender groups in the time trends in the incidence rates of colorectal cancer appear to be related to the different pattern of changes in the subsites, particularly in proximal colon and

rectal cancer. The reasons may be related to differences between whites and blacks in the suspected risk factors, protective factors, and screening.

Each gender and race group showed an increase in the percentage of colorectal cancers diagnosed in the early stages; the increases were much larger for black men and women than white men and women. By 1997, the percentages of early stage diagnosis were similar among the four gender and race groups.

Between 1979 and 1997, black women consistently had higher annual mortality rates than white women and the gap widened between 1994 and 1997. Beginning in 1982, black men usually had higher annual mortality rates than white men and, like women, the gap widened between 1994 and 1997. Both black men and women's annual mortality rates declined overall between 1979 and 1997, but not as much or as steadily as white men and women's. Most notably, black men and women's mortality rates showed increases in the three most recent years. This happened despite the great improvement between 1985 and 1997 in the percent of incident colorectal cancers diagnosed in the early stages in black men and women. This is similar to the national trend[6] and may reflect the differences in incidence and/or differences in treatment for colorectal cancer.

Screening

In recent years, less than half of the New Jersey population age 50 or over reported receiving colorectal screening at the recommended time intervals, similar to the proportion in the U.S. as a whole.[6]

Comparison of New Jersey and U.S. Rates

It is not known why the colorectal cancer incidence and mortality rates are higher in New Jersey than in the U.S. in recent years. A possible reason could be the higher prevalence of known or suspected risk factors. Higher rates of screening leading to the diagnosis of more colorectal cancers may also play a role. Poor access to state-of-the-art treatment, as well as higher incidence rates, could lead to overall higher mortality rates.[6] New Jersey colorectal screening rates are similar to the those for the U.S.[6], so screening probably does not explain the higher New Jersey incidence and mortality rates.

Conclusions

Although overall colorectal cancer incidence and mortality have steadily declined from 1979 to 1997, it remains a major cause of illness and death in New Jersey. At this time, increased attention to screening for colorectal cancer and promoting healthier lifestyles are the best methods for addressing this public health problem.

TECHNICAL NOTES

THE NEW JERSEY STATE CANCER REGISTRY[16]

The objectives of the New Jersey State Cancer Registry (NJSCR) are to:

* monitor cancer trends in New Jersey;
* promote scientific research;
* respond to New Jersey residents about cancer concerns;
* educate the public;
* provide information for planning and evaluating cancer prevention and control activities; and
* share and compare cancer data with other states and the nation.

The New Jersey State Cancer Registry is a population-based incidence registry that serves the entire state of New Jersey, with a population of approximately 8 million people. The NJSCR was established by legislation (NJSA 26:2-104 et. seq.) and includes all cases of cancer diagnosed in New Jersey residents since October 1, 1978. New Jersey regulations (NJAC 8:57A) require the reporting of all newly diagnosed cancer cases to the NJSCR within three months of hospital discharge or six months of diagnosis, whichever is sooner. Reports are filed by hospitals, diagnosing physicians, dentists, and independent clinical laboratories. Every hospital in New Jersey is now reporting cancer cases electronically. In addition, reporting agreements are maintained with New York, Pennsylvania, Delaware, Florida, Maryland, and other states so that New Jersey residents diagnosed with cancer outside the state can be identified.

All primary invasive and *in situ* neoplasms are reportable to the NJSCR, except cervical cancer *in situ* diagnosed after 1994 and certain carcinomas of the skin. The information collected by the NJSCR includes basic patient identifiers, demographic characteristics of the patient, medical information on each cancer diagnosis (such as the anatomic site, histologic type and summary stage of disease), and vital status (alive or deceased) determined annually. For deceased cases, the underlying cause of death is also included. The primary site, behavior, grade, and histology of each cancer are coded according to the *International Classification of Disease for Oncology, 2nd edition*. The NJSCR follows the data standards promulgated by the North American Association of Central Cancer Registries (NAACCR), including the use of the Surveillance Epidemiology and End Results (SEER) multiple primary rules.

The NJSCR is a member of NAACCR, an organization that sets standards for cancer registries, facilitates data exchange, and publishes cancer data. The NJSCR also has been a participant of the National Program of Cancer Registries sponsored by the Centers for Disease Control and Prevention since it began in 1994. In 1998, 1999, and 2000 the NJSCR attained the NAACCR Gold Medal for high quality data.

DATA SOURCES

The colorectal cancer data contained in this report are from four sources:

* New Jersey colorectal cancer incidence (1979-1997) - New Jersey State Cancer Registry (NJSCR), New Jersey Department of Health and Senior Services;
* New Jersey colorectal cancer mortality (1979-1997) - Vital Statistics, New Jersey Department of Health and Senior Services;
* New Jersey colorectal cancer screening (1997, 1999) - Center for Health Statistics, New Jersey Department of Health and Senior Services;
* New Jersey and U.S. cancer incidence (1993-1997) – North American Association of Central Cancer Registries (NAACCR).

For this report, incident colorectal cancer cases diagnosed only in the invasive stages are included; the *in situ* stage cases are excluded, except for the section on the stage at diagnosis which includes the *in situ* cases. The reason for excluding the *in situ* cases for most of the report is that data on colorectal cancer incidence for the U.S. and other cancer registries published by the federal government or NAACCR do not include *in situ* cases or include *in situ* cases separately from the invasive cases. Following the SEER multiple primary rules, patients could be counted more than once if they were diagnosed with two or more primary colorectal cancers.

DATA QUALITY

In the years 1998, 1999 and 2000, NAACCR awarded the NJSCR the Gold Standard, the highest standard possible, for the quality of the 1995, 1996 and 1997 data. The criteria used to judge the quality of the data were completeness of cancer case ascertainment, completeness of certain information on the cancer cases, percent of death certificate only cases, percent of duplicate cases, passing an editing program, and timeliness. These same quality indicators applied to earlier NJSCR data also have demonstrated a high degree of accuracy and reliability of the data presented in this report.

While our estimates of completeness are very high, some cases of colorectal cancer among New Jersey residents who were diagnosed and/or treated in other states, may not yet have been reported to us by other state registries. This fact should be considered in interpreting the data for the more recent years. However, these relatively few cases will not significantly affect the cancer rates in these years, or alter the overall trends presented in this report.

CALCULATION OF RATES

Annual population estimates for New Jersey, used to calculate incidence and mortality rates, for the years 1979 through 1997 are from the National Cancer Institute=s Surveillance Epidemiology and End Results (SEER) program. All the incidence and mortality rates, except age-specific rates, were age-adjusted using the 1970 U.S. Standard Population. This allows comparisons

among the rates by year, race, and geographic area. An explanation of why and how the incidence and mortality rates were age-adjusted follows:

Cancer occurs at different rates in different age groups, making age a very important risk factor for cancer. Therefore, incidence and mortality rates are frequently calculated separately for specific age groups. These rates are referred to as age-specific rates. The age specific rate for a time period of length *t* is calculated as follows:

$$r_a = \frac{n_a}{t \; x \; P_a}$$

where r_a = the age-specific rate for age-group *a*,
n_a = the number of events (cancer diagnoses or deaths, for example) in age-group a during the time period,
t = the length of time in years, and
P_a = average size of the population in age-group a during time t (mid-year population or average of the mid-year populations).

Multiplying r_a by 100,000 expresses the rate as the number of cases per 100,000 persons.

When comparing rates across different population subgroups, e.g. by race, or across different years, it is important to account for differences in age distributions. We calculate an age-adjusted rate using a weighted-average of the age-specific rates. This method of age adjustment is known as direct age-standardization. The age-adjusted rate is obtained by using the age distribution of a standard population as the weights:

$$R = \frac{\sum_{a=1}^{n} r_a \; x \; Std.P_a}{\sum_{a=1}^{n} Std.P_a}$$

where R = the age-adjusted rate,
r_a = the age-specific rate for age-group *a*, and
$Std.P_a$ = the number of people in age group *a* of the standard population.

Multiplying the age-adjusted rate by 100,000 expresses it as the number of cases per 100,000 persons.

The standard population used for age adjustment throughout this report is the 1970 U.S. Standard Population. This is the traditional standard population used in much of the published cancer incidence data.

REFERENCES

1. *Cancer Facts and Figures 2000.* American Cancer Society, Inc. Atlanta, GA, 2000.

2. Brownson RC, Reif JS, Alavanja MDR, Bal DG. Cancer. In *Chronic Disease Epidemiology and Control*, ed. Brownson RC, Remington PL, Davis JR. American Public Health Association, Washington, D.C., 1993.

3. Coogan, Patricia F., Lynn Rosenberg, Carol Louik, Ann G. Zauber, Paul D. Stolley, Brian L. Strom, and Samuel Shapiro. NSAIDs and risk of colorectal cancer according to presence or absence of family history of the disease. *Cancer Causes and Control*, 2000; 11: 249-255.

4. Chao A, Gilliland FD, Hunt WC, Bulterys M, Becker TM, Key CR. Increasing incidence of colon and rectal cancer among Hispanics and American Indians in New Mexico (United States), 1969-94. *Cancer Causes and Control*, 1998;9: 137-144.

5. *Conquering Colorectal Cancer: A Blueprint for the Future*. Report of the Colorectal Cancer Progress Review Group. National Cancer Institute, National Institutes of Health. 2000.

6. Ries LAG, Wingo PA, Miller DS, Howe HL, Weir HK, Rosenberg HM, Vernon SW, Cronin K, Edwards BK. The Annual Report to the Nation on the Status of Cancer, 1979-1997, with a Special Section on Colorectal Cancer. *Cancer*. 2000; 88(10): 2398-2419.

7. Schatzkin AG. Colon and Rectum. In *Cancer Rates and Risks*, eds. Harras A, Edwards BK, Blot WJ, Ries LAG. National Cancer Institute, National Institutes of Health, 4th edition. 1996.

8. Schottenfeld D, Winawer SJ. Cancers of the large intestine. In *Cancer Epidemiology and Prevention*, eds. Schottenfeld D, Fraumeni JF. Oxford University Press, New York, 1996.

9. Pappalardo G, Polettini E, Frattaroli FM, Casciani E, D'Orta C, D'Amato M, Gualdi GF. Magnetic resonance colonography versus conventional colonoscopy for the detection of colonic endoluminal lesions. *Gastroenterology*. 2000; 119: 300-304.

10. Center for Health Statistics. Cancer Screening Among New Jersey Adults: 1991-1996. *New Jersey Behavioral Risk Factor Surveillance System: Summary Report.* NJDHSS. Vol. 3(1), 1998.

11. *Colon and Rectum Cancer: Detection and Symptoms.* American Cancer Society, Inc., 2000.

12. Centers for Disease Control and Prevention. *A Call to Action: Prevention and Early Detection of Colorectal Cancer(CRC).* U.S. Department of Health and Human Services. 2000.

13. Centers for Disease Control and Prevention. *Chronic Diseases and Their Risk Factors: The Nation's Leading Causes of Death.* U.S. Department of Health and Human Services. 2000: 140-141.

14. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN (eds). *Cancer in North America. 1993-1997 Volume One: Incidence*. Sacramento, CA: North American Association of Central Cancer Registries, April 2000.

15. Chen VW, Howe HL, Wu XC, Hotes JL, Correa CN (eds). *Cancer in North America. 1993-1997 Volume Two: Mortality.* Sacramento, CA: North American Association of Central Cancer Registries, April 2000.

16. World Health Organization. International Classification of Diseases for Oncology. Geneva, Switzerland. World Health Organization, 1991.

17. Centers for Disease Control and Prevention. *Colorectal Cancer: Facts on Screening.* Screen for Life: National Colorectal Cancer Action Campaign. U.S. Department of Health and Human Services. July 2000.

GLOSSARY

CANCER

Tumor or Neoplasm - an abnormal growth of tissue; tumors can be benign (not cancer) or malignant (cancer).

Cancer - a group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells.

Carcinogen - any substance that causes cancer or helps cancer develop.

Risk factor - anything that increases a person's chance of getting a disease such as cancer.

Proximal Colon - the part of the colon comprised of the cecum, appendix, ascending colon, hepatic flexure, transverse colon, and splenic flexure.

Distal Colon – the part of the colon comprised of the descending colon, sigmoid colon, and all other parts of the large intestine, not otherwise specified.

Diagnosis - identifying a disease by its signs, symptoms, and laboratory findings; usually the earlier a diagnosis of cancer is made, the better the chance for cure.

Stage at diagnosis - describes how far cancer has spread by the time it is diagnosed:

> ***in situ* -** a very early cancer found in only a few layers of cells and called non-invasive because it has not invaded nearby tissue; this stage has an excellent prognosis.
>
> **local -** an invasive cancer confined entirely to the organ of origin, this stage has a better prognosis than the regional or distant stages.
>
> **regional -** an invasive cancer that has extended beyond the limits of the organ of origin into surrounding organs or tissues and/or into regional lymph nodes
>
> **distant -** an invasive cancer that has spread to parts of the body remote from the primary tumor either by direct extension or by metastasis.

Metastasis - the spread of cancer cells to distant areas of the body through the lymph system or the bloodstream.

Primary Site - the site in the body where the cancer began; usually cancer is named after the organ in which it started, e.g. prostate cancer. It is possible to have more than one primary cancer or multiple primaries at the same site.

International Classification of Diseases - Oncology (IDC-O) - the cancer classification system generally accepted for use in cancer registries; published by the World Health Organization.

EPIDEMIOLOGY

Epidemiology - the study of the patterns of the occurrence of disease in human populations and the factors that influence these patterns.

Incidence - the number of newly diagnosed cases of a disease occurring in a specific population during a specific time period.

Incidence rate (or crude incidence rate) - the number of newly diagnosed cases of a disease in a specific population during a specific time period per "x" number of people; usually the time period is one year and "x" number of people is 100,000.

Age-specific incidence rate - the number of newly diagnosed cases of a disease in a specific age group in a specific population over a specific time period per "x" number of people in the specific age group; usually five-year age groups (0-4, 5-9, 10-14, etc.), usually the time period is one year and "x" number of people in the specific age group is 100,000.

Age standardization (or age-adjustment) - the statistical adjustment of crude rates for differences in age distributions in order to compare rates in different populations; there are two types of standardization, direct and indirect.

Age-adjusted incidence rate - a summary incidence rate that takes into account the age distribution of the population. This is routinely done so that comparisons can be made from year to year. Age-adjustment also enables comparisons among geographic areas. There are several methods to age-adjust; direct standardization is the method most commonly used. With this method the age-specific incidence rates of the population of interest (e.g. New Jersey) are applied to a standard population (e.g. 1970 U.S. standard population).

Mortality - the number of deaths due to a disease in a specific population over a specific time period.

Mortality rate, age-specific mortality rate, age-adjusted mortality rate - analogous to the incidence rate, age-specific incidence rate, and age-adjusted incidence rate, except deaths rather than newly diagnosed cases are the numerator.

APPENDIX I
INFORMATION AND RECOMMENDATIONS REGARDING SCREENING FOR COLORECTAL CANCER[10-12, 17]

Screening = Prevention + Early Detection

- Prevention (polyp removal) ! decreased incidence
- Early detection ! decreased mortality

The risk of colorectal cancer increases sharply with age, and 90 percent of colorectal cancer cases occur in people over 50. As a result, regular colorectal cancer screening is strongly recommended for persons 50 years of age and older. The Centers for Disease Control and Prevention (CDC) estimate that more than one-third of all colorectal cancer deaths could be prevented by regular screening.

TABLE 15

CENTERS FOR DISEASE CONTROL AND PREVENTION COLORECTAL CANCER SCREENING OPTIONS FOR PEOPLE OVER 50*

TEST TYPE	PERIODICITY	BENEFITS	SHORTCOMINGS
FOBT+	Every Year	33% mortality reduction	Performed at home and subject to patient error; test not specific for colorectal cancers
Flex Sig#	5 years	60% mortality reduction from distal colon/rectal cancers.	No reduction in deaths from proximal colon cancers.
Colonoscopy	10 years	66% reduction of new cancers. Most accurate test for detecting polyps.	Not recommended for patients with advanced age.
DCBE++	5-10 years	Provides view of the entire colon.	Lower sensitivity to detecting polyps than colonoscopy.

*From *A Call to Action: Prevention and Early Detection of Colorectal Cancer (CRC).* Centers for Disease Control and Prevention. U.S. Department of Health and Human Services, 2000.
+Fecal occult blood test
#Flexible Sigmoidoscopy
++Double contrast barium enema

According to the American Cancer Society (ACS) guidelines for screening, men and women over the age of 50 should follow one of the following screening options:

- Yearly fecal occult blood test (FOBT) + flexible sigmoidoscopy every 5 years, or
- Colonoscopy every 10 years, or
- Double contrast barium enema every 5-10 years.

A digital rectal examination (DRE) should also be performed at the time of each sigmoidoscopy, colonoscopy, or barium enema examination.

For individuals exhibiting any of the following colorectal cancer risk factors, screening should begin at an earlier age and be performed more often:

- A strong family history of colorectal cancer or polyps (cancer or polyps in a first degree relative younger than 60 or in two first-degree relatives of any age); or
- A family with hereditary colorectal cancer syndromes (familial adenomatous polyposis and hereditary non-polyposis colon cancer); or
- A personal history of colorectal cancer or adenomatous polyps; or
- A personal history of chronic inflammatory bowel disease.

New Jersey Cancer Education and Early Detection Screening Services (NJCEED)

The New Jersey Cancer Education and Early Detection Services (NJCEED), New Jersey Department of Health and Senior Services, provides free screening for colorectal cancer, as well as breast, cervical, and prostate cancers, for uninsured or low-income individuals over the age of 40. NJCEED contracts with an agency in 20 of New Jersey's 21 counties to provide these services. The phone number of the program office in each county are listed below:

Atlantic	609-653-3484	Middlesex	732-745-3100x3115
Bergen	201-599-6114	Morris	1-800-447-3337
Burlington	609-267-1950	Monmouth	732-933-3989
Camden	856-968-7315	Ocean	1-800-621-0096
Cape May	609-465-1047	Passaic	973-754-2778
Cumberland/Salem	856-825-3344	Salem	(call NJCEED directly at
Essex	973-972-2777		609-292-8540)
Gloucester	856-845-0100x2786	Somerset	908-526-2335
Hudson	201-946-6459	Sussex	973-702-2740
Hunterdon	908-788-6514	Union	908-226-4900
Mercer	609-394-4045	Warren	908-859-6757

Each county also has an Office on Aging that can be reached at the number listed below:

Atlantic	609-645-7700X4700	Mercer	609-989-6662
Bergen	201-646-2625	Middlesex	732-745-3293/3295
Burlington	609-265-5069	Monmouth	732-431-7450
	1-800-564-4656	Morris	973-285-6848
Camden	856-858-3220	Ocean	732-929-2091
Cape May	609-886-2784/2785	Passaic	973-881-4950/4952
Cumberland	856-453-2220/2221	Salem	856-935-7510x8622
Essex	973-395-8375	Somerset	908-704-6346
Gloucester	856-384-6910	Sussex	973-579-0555
Hudson	201-271-4322	Union	908-527-4870/4872
Hunterdon	908-788-1361	Warren	908-475-6591

APPENDIX II
COLORECTAL CANCER IN NEW JERSEY
TABLES

TABLE 16
MALE COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY YEAR AND RACE, NEW JERSEY 1979-1997*

YEAR	RACE							
	ALL RACES		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
1979	2,552	73.2	2,383	74.3	152	55.7	12	5
1980	2,718	77.0	2,538	78.2	163	57.8	8	9
1981	2,682	75.0	2,457	74.8	185	71.6	20	20
1982	2,678	73.3	2,464	73.6	179	64.6	12	23
1983	2,776	75.4	2,555	76.0	193	67.7	17	11
1984	2,748	73.9	2,539	74.8	176	61.7	13	20
1985	2,954	77.8	2,742	79.3	173	56.3	11	28
1986	2,906	76.0	2,667	76.7	201	66.1	16	22
1987	2,957	76.3	2,716	77.3	202	63.0	18	21
1988	2,955	75.6	2,702	76.4	213	66.1	30	10
1989	2,851	72.4	2,591	72.7	206	62.6	35	19
1990	2,909	73.0	2,647	73.6	211	63.4	21	30
1991	2,878	71.3	2,590	71.3	215	62.7	48	25
1992	2,823	69.1	2,553	69.6	215	60.0	33	22
1993	2,719	65.5	2,446	66.0	203	55.3	47	23
1994	2,629	62.5	2,343	62.5	217	58.0	44	25
1995	2,660	62.3	2,346	62.0	266	70.4	35	13
1996	2,710	63.0	2,427	63.9	228	58.9	53	2
1997	2,682	61.3	2,381	61.8	244	59.9	50	7
TOTAL	**52,787**	**70.9**	**48,087**	**71.5**	**3,842**	**62.1**	**523**	**335**

*Incidence rates – per 100,000 population, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for men of other or unknown race.
Source: New Jersey State Cancer Registry.

TABLE 17
FEMALE COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY YEAR AND RACE, NEW JERSEY 1979-1997*

YEAR	RACE							
	ALL RACES		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
1979	2,678	54.1	2,455	53.7	203	54.8	10	10
1980	2,626	52.2	2,434	52.5	164	43.4	16	12
1981	2,806	54.4	2,576	54.3	187	48.0	20	23
1982	2,649	50.6	2,429	50.5	194	48.2	7	19
1983	2,777	52.1	2,542	52.0	204	49.0	17	14
1984	2,766	50.8	2,528	50.9	210	49.4	14	14
1985	2,916	53.5	2,653	53.3	220	50.3	25	18
1986	2,833	50.5	2,557	50.0	245	54.5	21	10
1987	2,852	50.4	2,591	50.3	219	47.2	28	14
1988	2,875	50.1	2,602	50.0	240	50.5	24	9
1989	2,879	49.7	2,623	50.0	216	44.0	23	17
1990	2,867	48.8	2,568	48.3	234	47.0	22	43
1991	2,833	47.5	2,549	47.5	241	46.9	26	17
1992	2,728	45.5	2,449	45.3	235	45.1	21	23
1993	2,718	44.9	2,424	44.7	239	44.4	36	19
1994	2,678	43.5	2,356	42.8	266	47.9	33	23
1995	2,668	43.3	2,347	42.5	270	48.4	42	9
1996	2,664	42.7	2,387	43.3	240	41.5	35	2
1997	2,712	43.1	2,381	42.8	282	48.5	38	11
TOTAL	**52,525**	**48.7**	**47,451**	**48.7**	**4,309**	**47.7**	**458**	**307**

*Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for men of other or unknown race.
Source: New Jersey State Cancer Registry.

TABLE 18
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE
AND INCIDENCE RATES BY RACE, MALES, NEW JERSEY
1979-1997*

	ALL RACES		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
less than 20	17	0.1	9	0.0	7	0.0	1	0
20-24	38	0.7	31	0.7	7	0.1	0	0
25-29	104	1.8	78	1.7	20	2.4	4	2
30-34	218	3.6	165	3.3	38	4.8	11	4
35-39	447	7.9	365	7.8	63	9.1	17	2
40-44	765	15.6	591	14.4	141	24.3	27	6
45-49	1,328	31.7	1,096	31.0	174	36.4	41	17
50-54	2,477	66.2	2,110	65.6	273	66.9	55	39
55-59	4,445	128.5	3,899	128.8	448	127.2	64	34
60-64	6,826	213.3	6,134	214.5	560	196.1	68	63
65-69	9,108	332.7	8,275	334.5	707	312.9	66	60
70-74	9,673	464.2	8,981	470.8	583	393.8	66	42
75-79	8,158	575.9	7,683	589.1	392	413.4	52	31
80-84	5,448	697.2	5,135	707.8	261	555.8	31	21
85+	3,737	760.8	3,535	779.7	168	512.1	20	14
TOTAL	**52,787**	**74.9**	**48,087**	**82.0**	**3,842**	**41.0**	**523**	**335**

*Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for men of unknown age or other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 19
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE
AND INCIDENCE RATES BY RACE, FEMALES, NEW JERSEY
1979-1997*

	ALL RACES		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
less than 20	13	0.1	10	0.1	2	-	1	0
20-24	43	0.8	33	0.8	8	0.9	2	0
25-29	83	1.4	59	1.3	18	2.0	4	2
30-34	205	3.3	162	3.2	33	3.6	7	3
35-39	383	6.5	281	5.9	74	9.0	19	9
40-44	738	14.2	569	13.3	126	17.9	30	13
45-49	1,311	29.4	1,023	27.6	234	39.7	43	11
50-54	2,149	53.7	1,799	53.0	288	58.0	37	25
55-59	3,392	88.9	2,889	87.5	423	97.8	48	32
60-64	5,159	141.3	4,563	141.6	508	140.1	48	40
65-69	7,140	208.1	6,381	207.7	661	216.6	54	44
70-74	8,530	294.2	7,825	296.9	611	271.5	55	39
75-79	8,846	391.6	8,238	397.4	529	326.8	39	40
80-84	7,482	498.3	6,992	501.3	426	450.6	40	24
85+	7,052	550.2	6,627	555.0	368	463.7	31	25
TOTAL	**52,525**	**69.5**	**47,451**	**75.9**	**4,309**	**41.1**	**458**	**307**

***Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for numbers of cases fewer than five or for women of unknown age or other or unknown race. Source: New Jersey State Cancer Registry

TABLE 20
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE AND INCIDENCE RATES BY YEAR, WHITE MALES, NEW JERSEY - 1979-1997*

YEAR	AGE GROUP											
	Under 40		40 to 49		50 to 59		60 to 69		70 to 79		80+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	31	1.7	81	24.0	383	102.4	742	267.4	773	555.4	373	743.1
1980	27	1.5	70	21.2	389	105.0	791	280.8	843	591.7	418	819.5
1981	37	2.0	74	22.4	365	100.3	768	268.0	815	559.1	398	773.0
1982	30	1.6	70	20.9	332	93.4	821	282.5	834	557.0	377	720.1
1983	29	1.6	86	24.8	339	97.6	816	278.5	829	541.6	456	857.2
1984	28	1.5	89	25.0	351	103.7	756	256.1	889	569.3	426	782.4
1985	39	2.1	79	21.7	406	122.8	878	294.9	900	564.3	440	793.9
1986	27	1.4	98	26.4	336	103.8	840	282.6	904	557.1	462	818.3
1987	46	2.5	92	23.4	377	119.2	817	275.4	924	557.6	460	796.3
1988	38	2.0	78	19.2	329	106.1	847	287.8	911	541.1	499	841.7
1989	28	1.5	84	20.2	247	81.5	812	279.7	908	529.1	512	839.5
1990	40	2.2	90	21.3	293	97.9	815	283.8	955	544.9	454	724.0
1991	31	1.7	90	20.7	258	87.2	772	273.7	957	530.2	482	741.5
1992	26	1.4	91	20.4	272	91.2	740	268.6	937	506.2	487	722.1
1993	34	1.9	96	21.4	264	85.7	710	263.5	894	476.8	448	638.2
1994	46	2.5	108	23.6	242	77.0	656	250.0	811	427.0	480	655.8
1995	27	1.5	118	25.1	248	77.6	622	241.9	860	447.4	471	616.2
1996	41	2.3	99	20.3	291	89.4	623	247.2	849	439.5	524	661.4
1997	43	2.4	94	19.2	287	82.9	583	235.6	871	448.2	503	612.9
TOTAL	**648**	**1.9**	**1,687**	**22.1**	**6,009**	**96.3**	**14,409**	**270.1**	**16,664**	**518.8**	**8,670**	**735.4**

*Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for men of other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 21
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE AND INCIDENCE RATES BY YEAR, WHITE FEMALES NEW JERSEY – 1979-1997*

YEAR	AGE GROUP											
	Under 40		40 to 49		50 to 59		60 to 69		70 to 79		80+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	26	1.4	107	30.0	343	84.0	619	186.2	756	357.2	604	556.1
1980	32	1.7	80	22.9	342	84.7	667	197.6	752	347.4	561	503.7
1981	22	1.2	83	23.9	329	82.9	623	181.9	883	399.5	636	559.5
1982	21	1.1	67	19.0	295	76.2	667	192.3	777	343.6	602	516.8
1983	39	2.1	75	20.5	292	77.3	668	191.2	825	357.2	643	539.3
1984	17	0.9	81	21.6	254	69.2	618	175.8	910	386.5	648	532.4
1985	34	1.9	81	21.2	304	85.1	636	179.7	910	379.9	688	550.3
1986	25	1.4	56	14.4	270	77.4	631	178.7	868	356.3	707	554.8
1987	44	2.4	85	20.6	224	66.0	622	176.6	888	358.5	728	558.9
1988	27	1.5	74	17.4	230	69.3	644	184.4	901	359.2	726	545.0
1989	23	1.3	94	21.7	229	70.6	599	174.0	864	340.5	814	596.0
1990	34	1.9	89	20.1	205	64.2	570	167.9	877	341.1	793	566.0
1991	30	1.7	77	17.0	211	66.9	556	167.3	858	328.3	817	564.1
1992	39	2.2	86	18.6	170	53.7	531	164.4	883	332.8	740	495.3
1993	26	1.5	82	17.6	202	62.0	500	158.9	857	320.2	757	492.3
1994	21	1.2	85	17.9	188	56.6	464	152.3	821	305.0	777	491.3
1995	33	1.9	98	20.2	194	57.6	435	146.7	817	302.1	770	473.7
1996	28	1.6	87	17.4	187	54.6	463	159.9	832	307.9	790	474.7
1997	24	1.4	105	20.8	219	60.3	431	152.1	784	290.1	818	480.7
TOTAL	**545**	**1.6**	**1,592**	**20.0**	**4,688**	**70.0**	**10,944**	**173.8**	**16,063**	**341.1**	**13,619**	**526.0**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for women of other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 22
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE AND INCIDENCE RATES BY YEAR, BLACK MALES NEW JERSEY – 1979-1997*

YEAR	AGE GROUP											
	Under 40		40 to 49		50 to 59		60 to 69		70 to 79		80+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	4	1.3	16	36.5	36	102.1	55	254.1	31	305.2	10	325.4
1980	10	3.1	18	40.3	37	101.9	50	226.0	35	335.6	13	405.4
1981	5	1.6	14	31.1	30	81.3	48	210.1	57	531.5	31	938.8
1982	7	2.1	10	21.8	26	69.7	67	284.7	50	451.8	19	554.4
1983	8	2.4	11	23.3	39	103.4	61	251.3	48	423.4	26	732.6
1984	4	1.2	10	20.7	32	84.2	56	224.2	50	433.9	24	653.4
1985	6	1.8	11	22.3	35	91.5	62	241.1	44	373.9	15	398.5
1986	6	1.7	15	29.9	34	88.1	72	274.3	44	367.3	30	777.6
1987	6	1.7	23	44.0	38	97.7	67	249.4	46	376.2	22	556.8
1988	5	1.4	17	31.4	35	88.8	85	310.7	45	363.5	26	635.2
1989	9	2.5	23	41.2	34	85.4	69	248.8	43	340.9	28	665.9
1990	10	2.8	20	33.6	43	108.2	63	226.8	49	382.3	26	605.9
1991	8	2.2	18	30.0	48	117.2	57	198.9	58	430.0	26	578.9
1992	10	2.7	16	26.0	46	110.5	63	215.5	61	434.9	19	403.7
1993	4	1.1	14	22.2	38	89.1	79	266.5	49	338.4	19	391.4
1994	9	2.4	16	24.6	41	94.1	76	252.6	52	350.8	23	458.0
1995	8	2.1	19	28.2	44	99.3	87	284.8	81	529.8	27	513.4
1996	8	2.1	14	19.8	38	84.6	78	251.9	67	428.2	23	425.3
1997	8	2.1	30	41.0	47	101.4	72	229.8	65	403.4	22	390.5
TOTAL	**135**	**2.0**	**315**	**29.8**	**721**	**94.8**	**1,267**	**247.7**	**975**	**401.4**	**429**	**537.8**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for men of other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 23
COLORECTAL CANCER AGE-SPECIFIC INCIDENCE AND INCIDENCE RATES BY YEAR, BLACK FEMALES NEW JERSEY – 1979-1997*

YEAR	AGE GROUP											
	Under 40		40 to 49		50 to 59		60 to 69		70 to 79		80+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	5	1.5	24	44.8	42	100.9	53	186.2	58	374.5	21	355.0
1980	6	1.7	13	23.9	29	67.6	45	154.4	45	279.5	26	419.0
1981	8	2.3	16	29.1	29	66.3	51	169.5	47	281.5	36	552.7
1982	7	2.0	11	19.6	41	92.5	52	167.9	49	282.4	34	493.7
1983	6	1.7	13	22.5	45	100.3	51	159.9	59	328.4	30	413.5
1984	6	1.7	11	18.6	32	70.8	51	155.8	58	313.3	52	682.6
1985	3	0.8	23	37.8	36	78.8	64	190.3	60	314.9	34	425.8
1986	8	2.2	16	25.8	43	93.0	55	160.6	69	352.9	54	649.7
1987	5	1.4	15	23.3	40	85.5	69	197.1	42	209.2	48	555.1
1988	10	2.7	14	21.0	39	81.9	62	173.8	71	347.0	44	485.4
1989	12	3.2	22	32.0	29	60.0	63	174.3	56	267.9	34	359.6
1990	9	2.4	22	30.7	28	57.2	73	200.4	70	328.8	32	320.8
1991	7	1.9	25	33.9	37	73.7	53	142.8	76	345.0	43	417.0
1992	8	2.1	19	25.0	36	69.6	68	180.1	66	289.3	38	355.6
1993	8	2.1	21	27.0	35	65.6	63	164.1	67	292.0	45	403.5
1994	10	2.6	28	35.0	40	72.9	61	157.3	60	258.6	67	578.6
1995	5	1.3	26	31.5	54	95.9	79	199.8	58	246.8	48	403.9
1996	6	1.6	24	27.9	37	64.6	61	150.8	63	260.7	49	404.8
1997	6	1.6	17	19.3	39	65.5	95	230.9	66	265.9	59	477.8
TOTAL	**135**	**1.9**	**360**	**27.8**	**711**	**76.5**	**1,169**	**175.1**	**1,140**	**294.6**	**794**	**456.6**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population. Includes invasive colorectal cancer cases; does not include *in situ* colorectal cancer cases. Rates were not calculated for men of other or unknown race. Source: New Jersey State Cancer Registry.

TABLE 24
COLORECTAL CANCER STAGE AT DIAGNOSIS
BY YEAR, NEW JERSEY – 1979-1997*

YEAR		STAGE AT DIAGNOSIS									
	Total	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	5316	126	2.4	1648	31.0	194	3.6	142	2.7	3206	60.3
1980	5429	132	2.4	1760	32.4	383	7.1	229	4.2	2925	53.9
1981	5569	167	3.0	1725	31.0	905	16.3	362	6.5	2410	43.3
1982	5478	214	3.9	1786	32.6	1008	18.4	476	8.7	1994	36.4
1983	5697	208	3.7	1880	33.0	1411	24.8	696	12.2	1502	26.4
1984	5733	287	5.0	1689	29.5	1889	32.9	947	16.5	921	16.1
1985	6152	393	6.4	1822	29.6	2143	34.8	1073	17.4	721	11.7
1986	6043	381	6.3	1891	31.3	2111	34.9	980	16.2	680	11.3
1987	6083	363	6.0	1866	30.7	2191	36.0	1022	16.8	641	10.5
1988	6135	383	6.2	1941	31.6	2082	33.9	1062	17.3	667	10.9
1989	6089	458	7.5	1806	29.7	2150	35.3	994	16.3	681	11.2
1990	6114	456	7.5	1825	29.8	2192	35.9	971	15.9	670	11.0
1991	6033	442	7.3	1753	29.1	2187	36.3	965	16.0	686	11.4
1992	5894	447	7.6	1729	29.3	2123	36.0	914	15.5	681	11.6
1993	5731	424	7.4	1705	29.8	2009	35.1	907	15.8	686	12.0
1994	5657	474	8.4	1512	26.7	2016	35.6	895	15.8	760	13.4
1995	5693	476	8.4	1670	29.3	1985	34.9	951	16.7	611	10.7
1996	5743	466	8.1	1747	30.4	2076	36.1	870	15.1	584	10.2
1997	5789	517	8.9	1762	30.4	2157	37.3	864	14.9	489	8.4
TOTAL	**110378**	**6814**	**6.2**	**33517**	**30.4**	**33212**	**30.1**	**15320**	**13.9**	**21515**	**19.5**

***Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 25
COLORECTAL CANCER STAGE AT DIAGNOSIS BY YEAR
WHITE MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	2451	69	2.8	774	31.6	96	3.9	71	2.9	1441	58.8
1980	2607	69	2.6	860	33.0	193	7.4	115	4.4	1370	52.6
1981	2548	93	3.6	801	31.4	417	16.4	167	6.6	1070	42.0
1982	2565	103	4.0	866	33.8	457	17.8	228	8.9	911	35.5
1983	2665	115	4.3	873	32.8	679	25.5	330	12.4	668	25.1
1984	2681	144	5.4	776	28.9	892	33.3	430	16.0	439	16.4
1985	2943	217	7.4	913	31.0	989	33.6	506	17.2	318	10.8
1986	2873	209	7.3	929	32.3	961	33.4	456	15.9	318	11.1
1987	2896	184	6.4	916	31.6	1032	35.6	471	16.3	293	10.1
1988	2896	197	6.8	959	33.1	965	33.3	493	17.0	282	9.7
1989	2819	232	8.2	874	31.0	988	35.0	436	15.5	289	10.3
1990	2874	228	7.9	894	31.1	1014	35.3	440	15.3	298	10.4
1991	2822	234	8.3	834	29.6	1010	35.8	449	15.9	295	10.5
1992	2777	228	8.2	843	30.4	977	35.2	442	15.9	287	10.3
1993	2660	215	8.1	824	31.0	903	33.9	432	16.2	286	10.8
1994	2587	243	9.4	707	27.3	912	35.3	391	15.1	334	12.9
1995	2571	231	9.0	735	28.6	905	35.2	427	16.6	273	10.6
1996	2675	253	9.5	864	32.3	903	33.8	398	14.9	257	9.6
1997	2622	249	9.5	813	31.0	958	36.5	386	14.7	216	8.2
TOTAL	**51532**	**3513**	**6.8**	**16055**	**31.2**	**15251**	**29.6**	**7068**	**13.7**	**9645**	**18.7**

***Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 26
COLORECTAL CANCER STAGE AT DIAGNOSIS BY YEAR
WHITE FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	2507	54	2.2	783	31.2	79	3.2	64	2.6	1527	60.9
1980	2488	55	2.2	801	32.2	172	6.9	95	3.8	1365	54.9
1981	2639	65	2.5	819	31.0	425	16.1	164	6.2	1166	44.2
1982	2530	101	4.0	797	31.5	479	18.9	205	8.1	948	37.5
1983	2628	86	3.3	892	33.9	632	24.0	305	11.6	713	27.1
1984	2647	123	4.6	800	30.2	858	32.4	430	16.2	436	16.5
1985	2795	155	5.5	800	28.6	1008	36.1	480	17.2	352	12.6
1986	2699	147	5.4	824	30.5	970	35.9	437	16.2	321	11.9
1987	2736	149	5.4	831	30.4	1009	36.9	449	16.4	298	10.9
1988	2747	147	5.4	854	31.1	952	34.7	463	16.9	331	12.0
1989	2818	196	7.0	802	28.5	1012	35.9	461	16.4	347	12.3
1990	2755	188	6.8	793	28.8	1002	36.4	445	16.2	327	11.9
1991	2726	179	6.6	775	28.4	1009	37.0	415	15.2	348	12.8
1992	2628	179	6.8	759	28.9	975	37.1	374	14.2	341	13.0
1993	2586	166	6.4	772	29.9	929	35.9	377	14.6	342	13.2
1994	2554	198	7.8	683	26.7	912	35.7	390	15.3	371	14.5
1995	2533	191	7.5	764	30.2	889	35.1	412	16.3	277	10.9
1996	2553	169	6.6	771	30.2	976	38.2	364	14.3	273	10.7
1997	2582	208	8.1	775	30.0	989	38.3	375	14.5	235	9.1
TOTAL	**50151**	**2756**	**5.5**	**15095**	**30.1**	**15277**	**30.5**	**6705**	**13.4**	**10318**	**20.6**

***Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 27
COLORECTAL CANCER STAGE AT DIAGNOSIS BY YEAR
BLACK MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	154	2	1.3	36	23.4	6	3.9	2	1.3	108	70.1
1980	164	1	0.6	46	28.0	9	5.5	11	6.7	97	59.1
1981	191	5	2.6	57	29.8	29	15.2	16	8.4	84	44.0
1982	184	5	2.7	63	34.2	29	15.8	24	13.0	63	34.2
1983	196	3	1.5	56	28.6	53	27.0	32	16.3	52	26.5
1984	181	6	3.3	53	29.3	69	38.1	41	22.7	12	6.6
1985	185	12	6.5	49	26.5	70	37.8	35	18.9	19	10.3
1986	214	13	6.1	71	33.2	71	33.2	43	20.1	16	7.5
1987	214	12	5.6	59	27.6	73	34.1	46	21.5	24	11.2
1988	234	21	9.0	54	23.1	90	38.5	46	19.7	23	9.8
1989	225	19	8.4	63	28.0	79	35.1	42	18.7	22	9.8
1990	230	19	8.3	67	29.1	84	36.5	40	17.4	20	8.7
1991	229	14	6.1	80	34.9	77	33.6	42	18.3	16	7.0
1992	235	20	8.5	65	27.7	69	29.4	54	23.0	27	11.5
1993	224	21	9.4	55	24.6	75	33.5	47	21.0	26	11.6
1994	231	14	6.1	60	26.0	93	40.3	47	20.3	17	7.4
1995	291	25	8.6	86	29.6	90	30.9	61	21.0	29	10.0
1996	245	16	6.5	65	26.5	88	35.9	49	20.0	27	11.0
1997	281	37	13.2	84	29.9	93	33.1	51	18.1	16	5.7
TOTAL	**4108**	**265**	**6.5**	**1169**	**28.5**	**1247**	**30.4**	**729**	**17.7**	**698**	**17.0**

***Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 28
COLORECTAL CANCER STAGE AT DIAGNOSIS BY YEAR
BLACK FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	204	1	0.5	55	27.0	13	6.4	5	2.5	130	63.7
1980	170	7	4.1	53	31.2	9	5.3	8	4.7	93	54.7
1981	191	4	2.1	48	25.1	34	17.8	15	7.9	90	47.1
1982	199	5	2.5	60	30.2	43	21.6	19	9.5	72	36.2
1983	208	4	1.9	59	28.4	47	22.6	29	13.9	69	33.2
1984	224	14	6.3	60	26.8	70	31.3	46	20.5	34	15.2
1985	229	9	3.9	60	26.2	76	33.2	52	22.7	32	14.0
1986	257	12	4.7	67	26.1	109	42.4	44	17.1	25	9.7
1987	237	18	7.6	60	25.3	77	32.5	56	23.6	26	11.0
1988	258	18	7.0	74	28.7	75	29.1	60	23.3	31	12.0
1989	227	11	4.8	67	29.5	71	31.3	55	24.2	23	10.1
1990	255	21	8.2	71	27.8	92	36.1	46	18.0	25	9.8
1991	256	15	5.9	64	25.0	91	35.5	59	23.0	27	10.5
1992	254	20	7.9	62	24.4	102	40.2	44	17.3	26	10.2
1993	261	22	8.4	54	20.7	102	39.1	51	19.5	32	12.3
1994	285	19	6.7	62	21.8	99	34.7	67	23.5	38	13.3
1995	298	29	9.7	85	28.5	101	33.9	51	17.1	32	10.7
1996	270	28	10.4	47	17.4	109	40.4	59	21.9	27	10.0
1997	304	23	7.6	90	29.6	117	38.5	52	17.1	22	7.2
TOTAL	**4587**	**280**	**6.1**	**1198**	**26.1**	**1437**	**31.3**	**818**	**17.8**	**854**	**18.6**

***Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 29
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY YEAR AND SUBSITE, WHITE MALES, NEW JERSEY – 1979-1997*

YEAR	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	594	18.7	1078	33.7	711	21.9	2383	74.3
1980	612	19.1	1158	35.6	768	23.6	2538	78.2
1981	619	19.1	1109	33.7	729	22.0	2457	74.8
1982	604	18.2	1102	33.0	758	22.4	2464	73.6
1983	696	20.8	1099	32.7	760	22.5	2555	76.0
1984	727	21.5	1004	29.6	808	23.7	2539	74.8
1985	773	22.6	1022	29.5	947	27.2	2742	79.3
1986	791	22.9	995	28.6	881	25.2	2667	76.7
1987	842	24.1	1008	28.6	866	24.7	2716	77.3
1988	871	24.6	991	27.9	840	23.8	2702	76.4
1989	858	24.0	938	26.4	795	22.3	2591	72.7
1990	848	23.6	953	26.5	846	23.6	2647	73.6
1991	855	23.5	963	26.6	772	21.3	2590	71.3
1992	838	22.6	918	25.0	797	22.1	2553	69.6
1993	883	23.6	864	23.3	699	19.1	2446	66.0
1994	824	21.7	818	22.0	701	18.8	2343	62.5
1995	810	21.1	839	22.2	697	18.7	2346	62.0
1996	863	22.4	788	20.5	776	21.0	2427	63.9
1997	928	23.6	746	19.4	707	18.8	2381	61.8
TOTAL	**14836**	**22.1**	**18393**	**27.3**	**14858**	**22.1**	**48087**	**71.5**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population.

TABLE 30
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY YEAR AND SUBSITE, WHITE FEMALES, NEW JERSEY – 1979-1997*

YEAR	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	681	14.5	1147	25.4	627	13.8	2455	53.7
1980	648	13.7	1145	24.7	641	14.1	2434	52.5
1981	737	15.2	1171	24.7	668	14.5	2576	54.3
1982	731	14.7	1071	22.4	627	13.4	2429	50.5
1983	832	16.6	1053	21.8	657	13.7	2542	52.0
1984	832	16.2	1047	21.2	649	13.5	2528	50.9
1985	945	18.4	991	20.3	717	14.6	2653	53.3
1986	942	17.7	907	18.0	708	14.3	2557	50.0
1987	997	18.8	900	17.6	694	13.9	2591	50.3
1988	936	17.4	1006	19.4	660	13.1	2602	50.0
1989	999	18.4	977	19.0	647	12.6	2623	50.0
1990	990	18.0	935	17.7	643	12.6	2568	48.3
1991	922	16.6	963	18.0	664	12.8	2549	47.5
1992	938	16.7	886	16.3	625	12.3	2449	45.3
1993	983	17.5	827	15.4	614	11.7	2424	44.7
1994	969	16.7	780	14.5	607	11.7	2356	42.8
1995	1022	17.6	751	13.8	574	11.1	2347	42.5
1996	1036	18.2	756	13.7	595	11.4	2387	43.3
1997	1058	18.1	737	13.6	586	11.0	2381	42.8
TOTAL	**17198**	**17.0**	**18050**	**18.7**	**12203**	**13.0**	**47451**	**48.7**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population.

TABLE 31
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY YEAR AND SUBSITE, BLACK MALES, NEW JERSEY – 1979-1997*

YEAR	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	32	11.9	80	30.1	40	13.7	152	55.7
1980	39	13.4	84	29.7	40	14.7	163	57.8
1981	43	16.2	86	34.0	56	21.3	185	71.6
1982	57	21.4	71	25.3	51	17.9	179	64.6
1983	63	22.4	86	30.8	44	14.6	193	67.7
1984	62	22.6	57	20.0	57	19.1	176	61.7
1985	62	20.2	55	18.9	56	17.2	173	56.3
1986	73	24.0	77	25.2	51	17.0	201	66.1
1987	74	23.7	82	25.4	46	13.9	202	63.0
1988	88	27.4	65	20.1	60	18.6	213	66.1
1989	65	20.0	84	24.9	57	17.7	206	62.6
1990	78	23.5	72	21.5	61	18.4	211	63.4
1991	87	25.4	71	21.3	57	16.1	215	62.7
1992	87	23.9	75	21.5	53	14.6	215	60.0
1993	87	24.2	68	18.3	48	12.9	203	55.3
1994	86	23.6	70	18.6	61	15.8	217	58.0
1995	104	27.9	92	24.2	70	18.3	266	70.4
1996	87	22.8	83	21.3	58	14.8	228	58.9
1997	103	25.8	72	17.7	69	16.4	244	59.9
TOTAL	**1377**	**22.5**	**1430**	**23.2**	**1035**	**16.4**	**3842**	**62.1**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population.

TABLE 32
COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES
BY YEAR AND SUBSITE, BLACK FEMALES, NEW JERSEY – 1979-1997*

YEAR	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1979	49	13.4	111	29.9	43	11.5	203	54.8
1980	51	13.9	79	21.1	34	8.4	164	43.4
1981	59	15.2	88	22.4	40	10.5	187	48.0
1982	55	13.6	99	24.5	40	10.0	194	48.2
1983	71	17.1	96	23.2	37	8.7	204	49.0
1984	83	19.3	86	20.5	41	9.6	210	49.4
1985	77	17.7	93	21.1	50	11.5	220	50.3
1986	90	20.3	112	24.8	43	9.4	245	54.5
1987	95	20.3	75	16.1	49	10.8	219	47.2
1988	84	17.7	108	22.7	48	10.1	240	50.5
1989	90	18.4	75	15.3	51	10.3	216	44.0
1990	95	18.9	80	16.1	59	12.0	234	47.0
1991	109	21.4	82	15.9	50	9.6	241	46.9
1992	102	19.4	81	15.9	52	9.8	235	45.1
1993	93	17.1	97	18.2	49	9.1	239	44.4
1994	115	20.9	98	17.5	53	9.5	266	47.9
1995	117	21.1	89	15.8	64	11.4	270	48.4
1996	103	17.5	84	14.9	53	9.0	240	41.5
1997	116	19.9	93	15.9	73	12.7	282	48.5
TOTAL	**1654**	**18.3**	**1726**	**19.1**	**929**	**10.2**	**4309**	**47.7**

***Incidence rates – per 100,000 residents, age-adjusted to the 1970 U.S. population.

TABLE 33
AGE-SPECIFIC COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY SUBSITE, WHITE MALES, NEW JERSEY – 1979-1997*

AGE-GROUP	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL SITES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
less than 20	5	-	3	-	1	-	9	-
20-24	7	-	13	-	11	-	31	0.7
25-29	26	0.6	27	0.6	25	0.5	78	1.7
30-34	63	1.3	48	1.0	54	1.1	165	3.3
35-39	126	2.7	122	2.6	117	2.5	365	7.8
40-44	190	4.6	212	5.2	189	4.6	591	14.4
45-49	312	8.8	400	11.3	384	10.9	1096	31.0
50-54	541	16.8	789	24.5	780	24.3	2110	65.6
55-59	965	31.9	1481	48.9	1453	48.0	3899	128.8
60-64	1526	53.4	2460	86.0	2148	75.1	6134	214.5
65-69	2400	97.0	3151	127.4	2724	110.1	8275	334.5
70-74	2858	149.8	3449	180.8	2674	140.2	8981	470.8
75-79	2576	197.5	2996	229.7	2111	161.9	7683	589.1
80-84	1883	259.6	1914	263.8	1338	184.4	5135	707.8
85+	1358	299.5	1328	292.9	849	187.3	3535	779.7
TOTAL	**14836**	**25.3**	**18393**	**31.4**	**14858**	**25.4**	**48087**	**82.0**

***Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for numbers of cases fewer than twenty or for cases of unknown age.
Source: New Jersey State Cancer Registry.

TABLE 34
AGE-SPECIFIC COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY SUBSITE, WHITE FEMALES, NEW JERSEY – 1979-1997*

AGE-GROUP	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL SITES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
less than 20	4	-	5	-	1	-	10	-
20-24	15	-	10	-	8	-	33	0.8
25-29	24	0.5	20	0.4	15	-	59	1.3
30-34	53	1.1	48	1.0	61	1.2	162	3.2
35-39	78	1.6	108	2.3	95	2.0	281	5.9
40-44	164	3.8	207	4.8	198	4.6	569	13.3
45-49	276	7.5	420	11.4	327	8.8	1023	27.6
50-54	457	13.5	754	22.2	588	17.3	1799	53.0
55-59	761	23.0	1286	38.9	842	25.5	2889	87.5
60-64	1367	42.4	1803	55.9	1393	43.2	4563	141.6
65-69	2153	70.1	2476	80.6	1752	57.0	6381	207.7
70-74	2901	110.1	2876	109.1	2048	77.7	7825	296.9
75-79	3228	155.7	3063	147.8	1947	93.9	8238	397.4
80-84	2942	210.9	2511	180.0	1539	110.3	6992	501.3
85+	2775	232.4	2463	206.3	1389	116.3	6627	555.0
TOTAL	**17198**	**27.5**	**18050**	**28.9**	**12203**	**19.5**	**47451**	**75.9**

*Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for numbers of cases fewer than twenty or for cases of unknown age.
Source: New Jersey State Cancer Registry

TABLE 35
AGE-SPECIFIC COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY SUBSITE, BLACK MALES, NEW JERSEY – 1979-1997*

AGE-GROUP	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL SITES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
less than 20	6	-	1	-	0	-	7	-
20-24	4	-	1	-	2	-	7	-
25-29	9	-	5	-	6	-	20	2.4
30-34	11	-	11	-	16	-	38	4.8
35-39	24	3.5	26	3.8	13	-	63	9.1
40-44	45	7.8	46	7.9	50	8.6	141	24.3
45-49	63	13.2	58	12.1	53	11.1	174	36.4
50-54	85	20.8	97	23.8	91	22.3	273	66.9
55-59	151	42.9	161	45.7	136	38.6	448	127.2
60-64	199	69.7	208	72.8	153	53.6	560	196.1
65-69	244	108.0	295	130.6	168	74.4	707	312.9
70-74	216	145.9	219	147.9	148	100.0	583	393.8
75-79	146	154.0	152	160.3	94	99.1	392	413.4
80-84	103	219.3	94	200.2	64	136.3	261	555.8
85+	71	216.4	56	170.7	41	125.0	168	512.1
TOTAL	**1377**	**14.7**	**1430**	**15.3**	**1035**	**11.1**	**3842**	**41.0**

*Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for numbers of cases fewer than twenty or for cases of unknown age.
Source: New Jersey State Cancer Registry

TABLE 36
AGE-SPECIFIC COLORECTAL CANCER INCIDENCE AND INCIDENCE RATES BY SUBSITE, BLACK FEMALES, NEW JERSEY – 1979-1997*

AGE-GROUP	SUBSITE							
	PROXIMAL COLON		DISTAL COLON		RECTUM		ALL SITES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
less than 20	1	-	0	-	1	-	2	-
20-24	2	-	3	-	3	-	8	-
25-29	11	-	5	-	2	-	18	-
30-34	15	-	8	-	10	-	33	3.6
35-39	23	2.8	30	3.7	21	2.6	74	9.0
40-44	41	5.8	52	7.4	33	4.7	126	17.9
45-49	85	14.4	98	16.6	51	8.7	234	39.7
50-54	94	18.9	126	25.4	68	13.7	288	58.0
55-59	142	32.8	176	40.7	105	24.3	423	97.8
60-64	187	51.6	211	58.2	110	30.4	508	140.1
65-69	243	79.6	263	86.2	155	50.8	661	216.6
70-74	237	105.3	247	109.8	127	56.4	611	271.5
75-79	219	135.3	200	123.5	110	68.0	529	326.8
80-84	195	206.3	161	170.3	70	74.0	426	450.6
85+	159	200.4	146	184.0	63	79.4	368	463.7
TOTAL	**1654**	**15.8**	**1726**	**16.5**	**929**	**8.9**	**4309**	**41.1**

*Incidence rates – per 100,000 population. Includes invasive cancer cases. Does not include *in situ* colorectal cancer cases. Rates were not calculated for numbers of cases fewer than twenty or for cases of unknown age.
Source: New Jersey State Cancer Registry

TABLE 37
PROXIMAL COLON CANCER STAGE AT DIAGNOSIS
WHITE MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	612	19	3.1	191	31.2	33	5.4	19	3.1	350	57.2
1980	625	13	2.1	204	32.6	57	9.1	29	4.6	322	51.5
1981	640	22	3.4	189	29.5	137	21.4	44	6.9	248	38.8
1982	628	24	3.8	206	32.8	152	24.2	47	7.5	199	31.7
1983	713	17	2.4	221	31.0	227	31.8	90	12.6	158	22.2
1984	753	27	3.6	198	26.3	316	42.0	135	17.9	77	10.2
1985	810	41	5.1	214	26.4	369	45.6	146	18.0	40	4.9
1986	850	60	7.1	254	29.9	360	42.4	133	15.6	43	5.1
1987	882	40	4.5	229	26.0	402	45.6	162	18.4	49	5.6
1988	919	48	5.2	275	29.9	398	43.3	159	17.3	39	4.2
1989	915	58	6.3	258	28.2	399	43.6	148	16.2	52	5.7
1990	912	64	7.0	277	30.4	370	40.6	157	17.2	44	4.8
1991	908	53	5.8	246	27.1	413	45.5	140	15.4	56	6.2
1992	901	64	7.1	256	28.4	392	43.5	136	15.1	53	5.9
1993	952	68	7.1	297	31.2	367	38.6	154	16.2	66	6.9
1994	896	70	7.8	246	27.5	373	41.6	136	15.2	71	7.9
1995	869	61	7.0	246	28.3	359	41.3	149	17.1	54	6.2
1996	928	65	7.0	313	33.7	353	38.0	144	15.5	53	5.7
1997	1000	73	7.3	302	30.2	416	41.6	147	14.7	62	6.2
TOTAL	**15713**	**887**	**5.6**	**4622**	**29.4**	**5893**	**37.5**	**2275**	**14.5**	**2036**	**13.0**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 38
PROXIMAL COLON CANCER STAGE AT DIAGNOSIS
WHITE FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	693	12	1.7	223	32.2	29	4.2	20	2.9	409	59.0
1980	653	6	0.9	215	32.9	64	9.8	21	3.2	347	53.1
1981	744	7	0.9	248	33.3	163	21.9	46	6.2	280	37.6
1982	751	20	2.7	249	33.2	173	23.0	54	7.2	255	34.0
1983	841	9	1.1	272	32.3	269	32.0	87	10.3	204	24.3
1984	855	25	2.9	243	28.4	363	42.5	132	15.4	92	10.8
1985	967	26	2.7	247	25.5	450	46.5	172	17.8	72	7.4
1986	966	26	2.7	279	28.9	461	47.7	155	16.0	45	4.7
1987	1026	29	2.8	296	28.8	480	46.8	156	15.2	65	6.3
1988	971	36	3.7	298	30.7	421	43.4	159	16.4	57	5.9
1989	1042	43	4.1	255	24.5	485	46.5	194	18.6	65	6.2
1990	1028	38	3.7	270	26.3	487	47.4	175	17.0	58	5.6
1991	968	47	4.9	263	27.2	450	46.5	149	15.4	59	6.1
1992	983	45	4.6	275	28.0	455	46.3	142	14.4	66	6.7
1993	1024	41	4.0	307	30.0	446	43.6	159	15.5	71	6.9
1994	1016	48	4.7	251	24.7	476	46.9	162	15.9	79	7.8
1995	1074	54	5.0	311	29.0	462	43.0	186	17.3	61	5.7
1996	1087	51	4.7	304	28.0	516	47.5	164	15.1	52	4.8
1997	1127	70	6.2	329	29.2	497	44.1	160	14.2	71	6.3
TOTAL	**17816**	**633**	**3.6**	**5135**	**28.8**	**7147**	**40.1**	**2493**	**14.0**	**2408**	**13.5**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 39
PROXIMAL COLON CANCER STAGE AT DIAGNOSIS
BLACK MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	32	0	0.0	13	40.6	0	0.0	0	0.0	19	59.4
1980	40	1	2.5	10	25.0	5	12.5	2	5.0	22	55.0
1981	45	1	2.2	12	26.7	8	17.8	5	11.1	19	42.2
1982	58	1	1.7	19	32.8	11	19.0	9	15.5	18	31.0
1983	63	0	0.0	16	25.4	21	33.3	11	17.5	15	23.8
1984	64	2	3.1	20	31.3	28	43.8	11	17.2	3	4.7
1985	66	4	6.1	16	24.2	25	37.9	16	24.2	5	7.6
1986	78	5	6.4	23	29.5	32	41.0	18	23.1	0	0.0
1987	76	2	2.6	22	28.9	28	36.8	20	26.3	4	5.3
1988	95	7	7.4	19	20.0	52	54.7	14	14.7	3	3.2
1989	71	6	8.5	19	26.8	26	36.6	14	19.7	6	8.5
1990	83	5	6.0	26	31.3	41	49.4	10	12.0	1	1.2
1991	93	6	6.5	28	30.1	32	34.4	23	24.7	4	4.3
1992	92	5	5.4	32	34.8	28	30.4	21	22.8	6	6.5
1993	98	11	11.2	26	26.5	32	32.7	24	24.5	5	5.1
1994	88	2	2.3	24	27.3	38	43.2	21	23.9	3	3.4
1995	111	7	6.3	34	30.6	37	33.3	28	25.2	5	4.5
1996	94	7	7.4	21	22.3	41	43.6	23	24.5	2	2.1
1997	120	17	14.2	38	31.7	42	35.0	22	18.3	1	0.8
TOTAL	**1467**	**89**	**6.1**	**418**	**28.5**	**527**	**35.9**	**292**	**19.9**	**141**	**9.6**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 40
PROXIMAL COLON CANCER STAGE AT DIAGNOSIS
BLACK FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	50	1	2.0	15	30.0	5	10.0	1	2.0	28	56.0
1980	53	2	3.8	14	26.4	4	7.5	5	9.4	28	52.8
1981	60	1	1.7	17	28.3	13	21.7	4	6.7	25	41.7
1982	57	2	3.5	13	22.8	15	26.3	8	14.0	19	33.3
1983	73	2	2.7	24	32.9	16	21.9	11	15.1	20	27.4
1984	86	4	4.7	26	30.2	28	32.6	19	22.1	9	10.5
1985	81	4	4.9	21	25.9	32	39.5	19	23.5	5	6.2
1986	96	6	6.3	27	28.1	45	46.9	14	14.6	4	4.2
1987	102	7	6.9	25	24.5	37	36.3	26	25.5	7	6.9
1988	89	5	5.6	27	30.3	28	31.5	26	29.2	3	3.4
1989	94	4	4.3	30	31.9	28	29.8	27	28.7	5	5.3
1990	103	8	7.8	26	25.2	44	42.7	19	18.4	6	5.8
1991	112	3	2.7	29	25.9	48	42.9	26	23.2	6	5.4
1992	108	7	6.5	24	22.2	55	50.9	18	16.7	4	3.7
1993	99	6	6.1	18	18.2	45	45.5	23	23.2	7	7.1
1994	122	7	5.7	26	21.3	52	42.6	25	20.5	12	9.8
1995	125	8	6.4	34	27.2	48	38.4	29	23.2	6	4.8
1996	117	14	12.0	13	11.1	55	47.0	28	23.9	7	6.0
1997	127	10	7.9	33	26.0	58	45.7	21	16.5	5	3.9
TOTAL	**1754**	**101**	**5.8**	**442**	**25.2**	**656**	**37.4**	**349**	**19.9**	**206**	**11.7**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 41
DISTAL COLON CANCER STAGE AT DIAGNOSIS
WHITE MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	1114	36	3.2	301	27.0	35	3.1	31	2.8	711	63.8
1980	1191	33	2.8	363	30.5	74	6.2	51	4.3	670	56.3
1981	1146	37	3.2	326	28.4	160	14.0	72	6.3	551	48.1
1982	1152	52	4.5	382	33.2	157	13.6	105	9.1	456	39.6
1983	1160	65	5.6	365	31.5	242	20.9	147	12.7	341	29.4
1984	1078	74	6.9	291	27.0	314	29.1	168	15.6	231	21.4
1985	1132	120	10.6	356	31.4	301	26.6	175	15.5	180	15.9
1986	1098	104	9.5	361	32.9	293	26.7	167	15.2	173	15.8
1987	1096	90	8.2	374	34.1	322	29.4	153	14.0	157	14.3
1988	1078	89	8.3	362	33.6	281	26.1	194	18.0	152	14.1
1989	1038	102	9.8	316	30.4	299	28.8	155	14.9	166	16.0
1990	1056	103	9.8	321	30.4	326	30.9	147	13.9	159	15.1
1991	1088	127	11.7	325	29.9	309	28.4	179	16.5	148	13.6
1992	1028	113	11.0	308	30.0	290	28.2	173	16.8	144	14.0
1993	959	96	10.0	280	29.2	295	30.8	148	15.4	140	14.6
1994	918	101	11.0	240	26.1	264	28.8	147	16.0	166	18.1
1995	938	104	11.1	248	26.4	281	30.0	161	17.2	144	15.4
1996	901	115	12.8	263	29.2	260	28.9	142	15.8	121	13.4
1997	844	101	12.0	274	32.5	251	29.7	136	16.1	82	9.7
TOTAL	**20015**	**1662**	**8.3**	**6056**	**30.3**	**4754**	**23.8**	**2651**	**13.2**	**4892**	**24.4**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 42
DISTAL COLON CANCER STAGE AT DIAGNOSIS
WHITE FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	1168	21	1.8	325	27.8	28	2.4	27	2.3	767	65.7
1980	1164	19	1.6	317	27.2	59	5.1	51	4.4	718	61.7
1981	1198	28	2.3	339	28.3	151	12.6	74	6.2	606	50.6
1982	1109	39	3.5	289	26.1	191	17.2	98	8.8	492	44.4
1983	1103	50	4.5	352	31.9	199	18.0	140	12.7	362	32.8
1984	1098	52	4.7	314	28.6	297	27.0	179	16.3	256	23.3
1985	1054	68	6.5	279	26.5	321	30.5	189	17.9	197	18.7
1986	977	71	7.3	283	29.0	277	28.4	163	16.7	183	18.7
1987	973	76	7.8	274	28.2	285	29.3	177	18.2	161	16.5
1988	1071	65	6.1	305	28.5	305	28.5	194	18.1	202	18.9
1989	1073	97	9.0	302	28.1	295	27.5	173	16.1	206	19.2
1990	1032	97	9.4	291	28.2	288	27.9	163	15.8	193	18.7
1991	1046	84	8.0	276	26.4	320	30.6	163	15.6	203	19.4
1992	973	87	8.9	274	28.2	282	29.0	144	14.8	186	19.1
1993	898	74	8.2	243	27.1	251	28.0	141	15.7	189	21.0
1994	866	86	9.9	214	24.7	242	27.9	128	14.8	196	22.6
1995	825	75	9.1	244	29.6	234	28.4	137	16.6	135	16.4
1996	823	70	8.5	239	29.0	230	27.9	125	15.2	159	19.3
1997	823	92	11.2	230	27.9	274	33.3	136	16.5	91	11.1
TOTAL	**19274**	**1251**	**6.5**	**5390**	**28.0**	**4529**	**23.5**	**2602**	**13.5**	**5502**	**28.5**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 43
DISTAL COLON CANCER STAGE AT DIAGNOSIS
BLACK MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	81	1	1.2	10	12.3	3	3.7	2	2.5	65	80.2
1980	84	0	0.0	19	22.6	2	2.4	8	9.5	55	65.5
1981	89	3	3.4	26	29.2	12	13.5	6	6.7	42	47.2
1982	75	4	5.3	23	30.7	9	12.0	9	12.0	30	40.0
1983	89	3	3.4	30	33.7	15	16.9	15	16.9	26	29.2
1984	58	1	1.7	17	29.3	20	34.5	12	20.7	8	13.8
1985	59	4	6.8	16	27.1	20	33.9	10	16.9	9	15.3
1986	84	7	8.3	23	27.4	30	35.7	11	13.1	13	15.5
1987	89	7	7.9	22	24.7	30	33.7	15	16.9	15	16.9
1988	74	9	12.2	16	21.6	22	29.7	13	17.6	14	18.9
1989	93	9	9.7	19	20.4	37	39.8	19	20.4	9	9.7
1990	81	9	11.1	18	22.2	25	30.9	15	18.5	14	17.3
1991	74	3	4.1	26	35.1	27	36.5	10	13.5	8	10.8
1992	86	11	12.8	19	22.1	21	24.4	24	27.9	11	12.8
1993	75	7	9.3	15	20.0	23	30.7	14	18.7	16	21.3
1994	78	8	10.3	14	17.9	31	39.7	16	20.5	9	11.5
1995	104	12	11.5	29	27.9	32	30.8	18	17.3	13	12.5
1996	91	7	7.7	26	28.6	30	33.0	14	15.4	14	15.4
1997	87	15	17.2	29	33.3	23	26.4	12	13.8	8	9.2
TOTAL	**1551**	**120**	**7.7**	**397**	**25.6**	**412**	**26.6**	**243**	**15.7**	**379**	**24.4**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 44
DISTAL COLON CANCER STAGE AT DIAGNOSIS
BLACK FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	111	0	0.0	26	23.4	6	5.4	3	2.7	76	68.5
1980	82	4	4.9	23	28.0	3	3.7	0	0.0	52	63.4
1981	90	2	2.2	17	18.9	12	13.3	9	10.0	50	55.6
1982	101	2	2.0	33	32.7	16	15.8	9	8.9	41	40.6
1983	97	1	1.0	25	25.8	24	24.7	11	11.3	36	37.1
1984	93	7	7.5	20	21.5	28	30.1	17	18.3	21	22.6
1985	96	3	3.1	28	29.2	26	27.1	21	21.9	18	18.8
1986	116	4	3.4	28	24.1	41	35.3	23	19.8	20	17.2
1987	83	8	9.6	23	27.7	25	30.1	16	19.3	11	13.3
1988	119	11	9.2	30	25.2	31	26.1	25	21.0	22	18.5
1989	79	4	5.1	23	29.1	22	27.8	16	20.3	14	17.7
1990	88	8	9.1	23	26.1	26	29.5	17	19.3	14	15.9
1991	91	9	9.9	21	23.1	26	28.6	20	22.0	15	16.5
1992	91	10	11.0	23	25.3	27	29.7	16	17.6	15	16.5
1993	106	9	8.5	22	20.8	34	32.1	23	21.7	18	17.0
1994	108	10	9.3	22	20.4	27	25.0	28	25.9	21	19.4
1995	97	9	9.3	27	27.8	30	30.9	15	15.5	16	16.5
1996	96	11	11.5	19	19.8	38	39.6	18	18.8	10	10.4
1997	101	10	9.9	37	36.6	31	30.7	17	16.8	6	5.9
TOTAL	**1845**	**122**	**6.6**	**470**	**25.5**	**473**	**25.6**	**304**	**16.5**	**476**	**25.8**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 45
RECTAL CANCER STAGE AT DIAGNOSIS
WHITE MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	725	14	1.9	282	38.9	28	3.9	21	2.9	380	52.4
1980	791	23	2.9	293	37.0	62	7.8	35	4.4	378	47.8
1981	762	34	4.5	286	37.5	120	15.7	51	6.7	271	35.6
1982	785	27	3.4	278	35.4	148	18.9	76	9.7	256	32.6
1983	792	33	4.2	287	36.2	210	26.5	93	11.7	169	21.3
1984	850	43	5.1	287	33.8	262	30.8	127	14.9	131	15.4
1985	1001	56	5.6	343	34.3	319	31.9	185	18.5	98	9.8
1986	925	45	4.9	314	33.9	308	33.3	156	16.9	102	11.0
1987	918	54	5.9	313	34.1	308	33.6	156	17.0	87	9.5
1988	899	60	6.7	322	35.8	286	31.8	140	15.6	91	10.1
1989	866	72	8.3	300	34.6	290	33.5	133	15.4	71	8.2
1990	906	61	6.7	296	32.7	318	35.1	136	15.0	95	10.5
1991	826	54	6.5	263	31.8	288	34.9	130	15.7	91	11.0
1992	848	51	6.0	279	32.9	295	34.8	133	15.7	90	10.6
1993	749	51	6.8	247	33.0	241	32.2	130	17.4	80	10.7
1994	773	72	9.3	221	28.6	275	35.6	108	14.0	97	12.5
1995	764	66	8.6	241	31.5	265	34.7	117	15.3	75	9.8
1996	846	73	8.6	288	34.0	290	34.3	112	13.2	83	9.8
1997	778	75	9.6	237	30.5	291	37.4	103	13.2	72	9.3
TOTAL	**15804**	**964**	**6.1**	**5377**	**34.0**	**4604**	**29.1**	**2142**	**13.6**	**2717**	**17.2**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 46
RECTAL CANCER STAGE AT DIAGNOSIS
WHITE FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	646	21	3.3	235	36.4	22	3.4	17	2.6	351	54.3
1980	671	30	4.5	269	40.1	49	7.3	23	3.4	300	44.7
1981	697	30	4.3	232	33.3	111	15.9	44	6.3	280	40.2
1982	670	42	6.3	259	38.7	115	17.2	53	7.9	201	30.0
1983	684	27	3.9	268	39.2	164	24.0	78	11.4	147	21.5
1984	694	46	6.6	243	35.0	198	28.5	119	17.1	88	12.7
1985	774	61	7.9	274	35.4	237	30.6	119	15.4	83	10.7
1986	756	50	6.6	262	34.7	232	30.7	119	15.7	93	12.3
1987	737	44	6.0	261	35.4	244	33.1	116	15.7	72	9.8
1988	705	46	6.5	251	35.6	226	32.1	110	15.6	72	10.2
1989	703	56	8.0	245	34.9	232	33.0	94	13.4	76	10.8
1990	695	53	7.6	232	33.4	227	32.7	107	15.4	76	10.9
1991	712	48	6.7	236	33.1	239	33.6	103	14.5	86	12.1
1992	672	47	7.0	210	31.3	238	35.4	88	13.1	89	13.2
1993	664	51	7.7	222	33.4	232	34.9	77	11.6	82	12.3
1994	672	64	9.5	218	32.4	194	28.9	100	14.9	96	14.3
1995	634	62	9.8	209	33.0	193	30.4	89	14.0	81	12.8
1996	643	48	7.5	228	35.5	230	35.8	75	11.7	62	9.6
1997	632	46	7.3	216	34.2	218	34.5	79	12.5	73	11.6
TOTAL	**13061**	**872**	**6.7**	**4570**	**35.0**	**3601**	**27.6**	**1610**	**12.3**	**2408**	**18.4**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 47
RECTAL CANCER STAGE AT DIAGNOSIS
BLACK MALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	41	1	2.4	13	31.7	3	7.3	0	0.0	24	58.5
1980	40	0	0.0	17	42.5	2	5.0	1	2.5	20	50.0
1981	57	1	1.8	19	33.3	9	15.8	5	8.8	23	40.4
1982	51	0	0.0	21	41.2	9	17.6	6	11.8	15	29.4
1983	44	0	0.0	10	22.7	17	38.6	6	13.6	11	25.0
1984	59	3	5.1	16	27.1	21	35.6	18	30.5	1	1.7
1985	60	4	6.7	17	28.3	25	41.7	9	15.0	5	8.3
1986	52	1	1.9	25	48.1	9	17.3	14	26.9	3	5.8
1987	49	3	6.1	15	30.6	15	30.6	11	22.4	5	10.2
1988	65	5	7.7	19	29.2	16	24.6	19	29.2	6	9.2
1989	61	4	6.6	25	41.0	16	26.2	9	14.8	7	11.5
1990	66	5	7.6	23	34.8	18	27.3	15	22.7	5	7.6
1991	62	5	8.1	26	41.9	18	29.0	9	14.5	4	6.5
1992	57	4	7.0	14	24.6	20	35.1	9	15.8	10	17.5
1993	51	3	5.9	14	27.5	20	39.2	9	17.6	5	9.8
1994	65	4	6.2	22	33.8	24	36.9	10	15.4	5	7.7
1995	76	6	7.9	23	30.3	21	27.6	15	19.7	11	14.5
1996	60	2	3.3	18	30.0	17	28.3	12	20.0	11	18.3
1997	74	5	6.8	17	23.0	28	37.8	17	23.0	7	9.5
TOTAL	**1090**	**56**	**5.1**	**354**	**32.5**	**308**	**28.3**	**194**	**17.8**	**178**	**16.3**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 48
RECTAL CANCER STAGE AT DIAGNOSIS
BLACK FEMALES, NEW JERSEY – 1979-1997*

YEAR	STAGE AT DIAGNOSIS										
	TOTAL	*IN SITU*		LOCALIZED		REGIONAL		DISTANT		UNKNOWN	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1979	43	0	0.0	14	32.6	2	4.7	1	2.3	26	60.5
1980	35	1	2.9	16	45.7	2	5.7	3	8.6	13	37.1
1981	41	1	2.4	14	34.1	9	22.0	2	4.9	15	36.6
1982	41	1	2.4	14	34.1	12	29.3	2	4.9	12	29.3
1983	38	1	2.6	10	26.3	7	18.4	7	18.4	13	34.2
1984	45	3	6.7	14	31.1	14	31.1	10	22.2	4	8.9
1985	52	2	3.8	11	21.2	18	34.6	12	23.1	9	17.3
1986	45	2	4.4	12	26.7	23	51.1	7	15.6	1	2.2
1987	52	3	5.8	12	23.1	15	28.8	14	26.9	8	15.4
1988	50	2	4.0	17	34.0	16	32.0	9	18.0	6	12.0
1989	54	3	5.6	14	25.9	21	38.9	12	22.2	4	7.4
1990	64	5	7.8	22	34.4	22	34.4	10	15.6	5	7.8
1991	53	3	5.7	14	26.4	17	32.1	13	24.5	6	11.3
1992	55	3	5.5	15	27.3	20	36.4	10	18.2	7	12.7
1993	56	7	12.5	14	25.0	23	41.1	5	8.9	7	12.5
1994	55	2	3.6	14	25.5	20	36.4	14	25.5	5	9.1
1995	76	12	15.8	24	31.6	23	30.3	7	9.2	10	13.2
1996	57	3	5.3	15	26.3	16	28.1	13	22.8	10	17.5
1997	76	3	3.9	20	26.3	28	36.8	14	18.4	11	14.5
TOTAL	**988**	**57**	**5.8**	**286**	**28.9**	**308**	**31.2**	**165**	**16.7**	**172**	**17.4**

*Includes invasive and *in situ* colorectal cancer cases. Source: New Jersey State Cancer Registry.

TABLE 49
MALE COLORECTAL CANCER MORTALITY AND MORTALITY RATES BY YEAR AND RACE, NEW JERSEY 1979-1997*

YEAR	RACE							
	ALL		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
1979	1127	32.9	1045	33.0	77	31.8	3	2
1980	1185	34.0	1102	34.4	78	30.7	4	1
1981	1084	30.9	1007	31.1	72	28.1	3	2
1982	1069	29.8	983	30.0	80	29.9	6	0
1983	1195	33.0	1092	32.9	97	35.4	6	0
1984	1215	33.0	1109	32.9	100	34.6	5	1
1985	1213	32.2	1108	32.2	96	32.4	8	1
1986	1107	29.3	1014	29.4	90	31.7	2	1
1987	1156	30.2	1058	30.4	92	30.2	5	1
1988	1136	29.2	1034	29.3	94	29.0	8	0
1989	1097	28.0	985	27.7	97	30.3	12	3
1990	1122	28.5	1005	28.1	108	32.5	5	4
1991	1098	27.4	995	27.3	93	28.9	8	2
1992	1119	27.4	1018	27.7	88	25.7	7	6
1993	1070	25.8	943	25.3	113	31.7	12	2
1994	1101	26.1	1009	26.7	80	21.7	9	3
1995	1101	25.6	976	25.5	113	30.1	12	0
1996	1094	24.9	967	24.7	119	32.3	8	0
1997	968	21.9	863	22.1	100	26.1	5	0
TOTAL	**21257**	**---**	**19313**	**---**	**1787**	**---**	**128**	**29**

*Mortality rates – per 100,000, age-adjusted to the 1970 U.S. population. Rates were not calculated for men of other or unknown race. Dashes indicate total rates that could not be calculated.

TABLE 50
FEMALE COLORECTAL CANCER MORTALITY AND MORTALITY RATES BY YEAR AND RACE, NEW JERSEY 1979-1997*

YEAR	RACE							
	ALL		WHITE		BLACK		OTHER	UNKNOWN
	Number	Rate	Number	Rate	Number	Rate	Number	Number
1979	1178	23.2	1078	22.8	95	26.3	3	2
1980	1091	21.3	1011	21.3	77	20.9	2	1
1981	1222	23.2	1125	23.2	94	24.6	0	3
1982	1198	22.1	1104	22.0	91	22.7	3	0
1983	1220	22.4	1118	22.3	98	23.6	3	1
1984	1198	21.2	1096	21.2	96	22.7	6	0
1985	1186	20.7	1079	20.6	104	23.5	1	2
1986	1092	18.7	997	18.8	90	19.9	5	0
1987	1147	19.7	1029	19.2	106	23.1	11	1
1988	1163	19.4	1059	19.5	98	20.6	6	0
1989	1129	18.8	1027	18.8	93	19.2	8	1
1990	1096	17.9	986	17.6	97	19.5	7	6
1991	1146	18.3	1009	17.7	129	25.1	6	2
1992	1112	17.1	998	16.9	103	19.6	8	3
1993	1114	17.2	994	17.0	105	19.4	10	5
1994	1148	17.7	1033	17.6	106	19.2	7	2
1995	1102	16.7	965	16.2	127	22.3	9	1
1996	1084	16.1	953	15.7	123	21.2	8	0
1997	1022	14.7	875	14.0	134	22.5	13	0
TOTAL	**21648**	**---**	**19536**	**---**	**1966**	**---**	**116**	**30**

*Mortality rates – per 100,000, age-adjusted to the 1970 U.S. population. Rates were not calculated for women of other or unknown race. Dashes indicate total rates that could not be calculated.

TABLE 51
AGE-SPECIFIC MORTALITY AND MORTALITY RATES BY RACE AND GENDER, NEW JERSEY – 1979-1997*

AGE GROUP	MALES				FEMALES			
	WHITE		BLACK		WHITE		BLACK	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	-	0	-	1	-	0	-
5-9	0	-	0	-	0	-	0	-
10-14	0	-	1	-	1	-	0	-
15-19	1	-	1	-	4	-	1	-
20-24	6	-	3	-	7	-	3	-
25-29	25	0.5	8	-	11	-	7	-
30-34	52	1.0	14	-	33	0.6	12	-
35-39	101	2.1	26	3.7	85	1.8	24	2.7
40-44	190	4.7	41	7.1	137	3.2	34	4.8
45-49	331	9.4	79	16.3	307	8.5	85	14.2
50-54	658	20.4	108	26.2	536	15.6	133	26.1
55-59	1,279	41.7	185	52.7	974	28.7	151	33.9
60-64	2,189	76.0	232	81.1	1,579	48.1	230	60.3
65-69	3,086	124.9	303	136.1	2,352	76.5	267	84.1
70-74	3,505	185.4	300	203.8	2,989	114.1	275	119.2
75-79	3,332	260.4	216	229.0	3,442	168.4	262	154.9
80-84	2,478	348.8	146	317.7	3,137	228.0	233	240.3
85+	2,079	443.3	124	380.9	3,940	330.2	249	283.8
TOTAL	**19,313**	**33.0**	**1,787**	**19.1**	**19,536**	**31.3**	**1,966**	**24.6**

*Mortality Rates – per 100,000. Rates were not calculated for numbers of cases fewer than twenty.